ORNL/TM-2013/539

2012 EVALUATION OF PCBs IN FISH NEAR THE U.S. DEPARTMENT OF ENERGY'S KANSAS CITY PLANT

November 2013

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Cover photos: Oak Ridge National Laboratory and Kansas City Plant staffs collecting fish on June 13th, 2012 from Indian Creek, Kansas City, Missouri. Also shown are the primary fish species collected near the Kansas City Plant for the long-term biological monitoring program: channel catfish (top) and green sunfish (bottom).

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Environmental Sciences Division

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LIST OF ACRONYMS

BCK	Boone Creek kilometer
BLK	Blue River kilometer
BMAP	Biological Monitoring and Abatement Program
DOE	Department of Energy
ECD	Electron Capture Detection
EPA	Environmental Protection Agency
FDA	U.S. Food and Drug Administration
GPD	Gallons per day
ICK	Indian Creek kilometer
KCP	Kansas City Plant
MDHSS	Missouri Department of Health and Senior Services
NPDES	National Pollutant Discharge Elimination System
ORNL	Oak Ridge National Laboratory
PCB	Polychlorinated biphenyl
QA	Quality Assurance
QC	Quality Control
SPMD	Semi-permeable Membrane Device
TCDD	2,3,7,8 tetrachlorodibenzodioxin
TEF	Toxicity Equivalent Factor
TEQ	Toxic Equivalent
TM	Technical Memorandum
WHO	World Health Organization

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1. INTRODUCTION

This report provides an evaluation of polychlorinated biphenyl (PCB) concentrations in fish collected from waters near the Kansas City Plant (KCP) in Kansas City, Missouri in 2012. This evaluation focuses on two primary objectives: 1) compare current PCB concentrations in fish to historical levels, and 2) evaluate spatial patterns of PCB concentrations in fish as a means to better understand the role of KCP discharges on PCB bioaccumulation. Corresponding to the second objective, semi-permeable membrane devices (SPMDs) were deployed at sites in 2012. Past studies have found that these passive monitors, in conjunction with fish monitoring, can be effective at identifying PCB source areas, as they reflect exposure at the emplacement site and can be placed in storm drains and other water conduits where fish cannot survive (Peterson et al. 2003, Peterson et al. 2006).

Studies conducted by the Missouri Department of Conservation in the mid-1980s (McGrath 1988a, 1988b) found high levels of polychlorinated biphenyls (PCBs) and chlordane in fish from the Blue River. These results triggered a fish advisory for the river, which has varied some over the last 20+ years but currently involves limiting consumption of common carp and channel catfish (all sizes) to one meal per month (MDHSS 2013). Because of concerns about mercury levels in fish, there are also US and state-wide fish advisories, regardless of fish species or water body, for sensitive human populations (defined as pregnant women, women of childbearing age, nursing mothers, and children younger than age 13). Further details regarding both the benefits of eating fish and the potential health concerns are provided in the Missouri Department of Health and Senior Services fish advisory guidance document (MDHSS 2013).

Oak Ridge National Laboratory (ORNL) staff has periodically monitored fish PCB concentrations near the KCP since 1991. Sampling campaigns were conducted annually from 1991-1993, and then in 1998, 2002, 2005, 2007, and 2012 (Southworth et al. 1992, Ashwood et al. 1993, Ashwood and Peterson 1994, Ashwood 1998, Peterson et al. 2003, Peterson et al. 2006, and Peterson et al. 2008). These studies characterized concentrations of PCBs in fish from the Blue River as well as Indian Creek and Boone Creek. In all sampled years, relative to upstream sample stations, elevated PCB concentrations were found in fish in proximity of the Kansas City Plant. However, these past studies also concluded that the KCP appeared to be one of multiple sources of PCBs to both Indian Creek and the Blue River.

Monitoring of fish for PCB accumulation near the KCP is currently on a five-year schedule. Because monitoring change in fish PCB concentrations over time is an important component of these routine evaluations, the fish sampling locations and species collected in 2012 were essentially the same as in previous studies. In general, locations were chosen upstream and downstream of major KCP outfalls to help evaluate the importance of those outfalls as sources of PCBs. Green sunfish (*Lepomis cyanellus*) and channel catfish (*Ictalurus punctatus*) were again the primary species collected. SPMDs were placed in cages at locations near major KCP outfalls and nearby stream sites similar to those locations sampled in 2007.

The class of compounds known as PCBs is comprised of 209 different compounds or congeners. They all have the same basic double-ring biphenyl structure but differ by the number and location of chlorine atoms attached to the rings. Congeners are identified systematically by number from 1 to 209 with the congeners with a single chlorine atom assigned the lowest numbers and the congener with a complete complement of 10 chlorine atoms assigned number 209. Similarly, PCBs reported by Aroclor mixtures (e.g., 1242, 1248, 1254, 1260) also are indicative of the chlorine structure - higher numbered mixtures are comprised of more highly chlorinated PCB compounds. As was the case in 2007, all fish and SPMD samples obtained in 2012 were analyzed by both Aroclor-based analyses (SW846 Method 8082) and by high resolution gas

chromatography/mass spectrometry using isotopically labeled internal standards (EPA Method 1668a). Such an approach of using two separate PCB analyses provides a high level of quality assurance and scientific rigor to the evaluation.

2. METHODS

2.1 Description of Study Site

The KCP within the Bannister Federal Complex is located in a commercial and residential area ~13 miles south of downtown Kansas City, Missouri, within the incorporated city limits. The KCP occupies 137 of the 300 acres covered by the complex. The Kansas City Plant's people and operations are currently moving out of the space it uses at the Bannister Federal Complex to a new National Security Campus in south Kansas City. Although KCP operations at the Bannister Federal Complexare scheduled to cease in August 2014, and for some time PCBs have not been used at the KCP, remnant areas of PCB soil contamination remain beneath the main building which is not accessible for purposes of remediation. PCBs were used at the KCP in manufacturing operations from the early 1960's through the mid-1970's as a heat transfer fluid in plastic injection molding operations. Several PCB releases occurred associated with heat transfer fluid line breaks.

Numerous corrective actions have been completed to address accessible areas of contamination and to prevent the migration of PCBs into the storm sewer system (DOE 2003). In order to comply with a residual chlorine limit in the KCP's NPDES permit, single pass cooling water discharges to KCP storm sewers were removed during 2002 and 2003. Wastewater discharges from Outfall 002 had been shown by both NPDES monitoring and passive PCB monitors (Peterson et al. 2003) to be a relatively continuous low level source of PCBs to Indian Creek. Following the elimination of single pass cooling water, air conditioning condensate was the only non-rain event source of flow to the storm sewer system. This remaining flow in Outfall 002 amounted to approximately five to ten gallons per minute. At this flow PCBs continue to be detected at approximately 0.5 µg/L, which is the permitted discharge limit. In March of 2005 the Outfall 002 Reroute System became operational diverting all non-rain event flow in Outfall 002 to the KCP's Groundwater Treatment System. As a result, Outfall 002 now only discharges following precipitation events and these discharges typically do not contain detectable levels of PCBs. Since this action, average daily flow has decreased from 186,000 gallons per day (GPD) in 2002 when 26 inches of annual rainfall was received to 55,716 gpd in 2012 when 23.3 inches of annual rainfall was received. The frequency of discharge from Outfall 002 has decreased from 100% of the time to only discharging in association with a rain event.

The Blue River and its tributaries, Indian Creek and Boone Creek, receive surface water runoff, discharges permitted under the National Pollutant Discharge Elimination System, and groundwater from the federal complex (Figure 1). Indian Creek and the Blue River also receive runoff from residential and commercial facilities and discharges from sewage treatment plants upstream from the KCP. In general, the biological communities of lower Indian Creek and the Blue River below its confluence with Indian Creek are negatively impacted by a number of factors, including industrial and sewage treatment discharges, urban-parking lot runoff, intermittent spills, bank erosion and siltation, excessive sedimentation, and stream channelization (Ryon et al. 2000). Water quality is relatively good in the Blue River above the confluence with Indian Creek, but a large sewage treatment plant on Indian Creek degrades water quality in the lower half of the river (Pitchford et al. 1999, Wilkison et al. 2006). Like many urban streams, the system is flashy (i.e., rapidly rising and falling stream flows), and the extreme flow changes can also adversely affect resident aquatic biota.

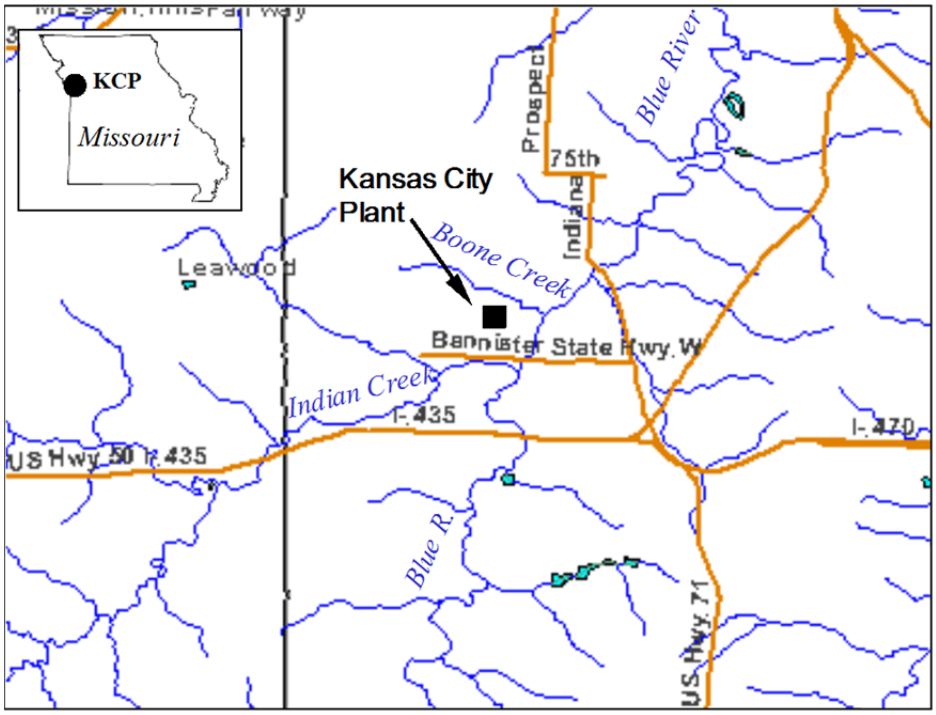

Figure 1. Location of the Kansas City Plant in relation to local waters and major roads.

2.2 Sample Collection

During the week of June 12 – June 16, 2012, green sunfish (*Lepomis cyanellus*) and channel catfish (*Ictalurus punctatus*) were collected from three sites on the Blue River (BLK25, BLK27, and BLK31), three sites on Indian Creek (ICK0.2, ICK1.0, and ICK3.0), and one site on Boone Creek (BCK0.2) using backpack electrofishers. The locations of fish sampling sites relative to KCP discharges are shown in Figure 2.

Sunfish greater than 40 grams in size and channel catfish greater than 400 grams in size were targeted (Figure 3), in order to minimize possible bias related to size/contaminant covariance and to provide a direct measure of risks to sport fishermen. However, at many sites larger sunfish were rare and smaller fish were taken to complete efforts to collect eight fish from each sample station. Over the 20 years of fish sampling at KCP, the fish populations for these two species have been relatively stable overall, but have also changed at some sites. For example, channel catfish in recent years are abundant at ICK3.0 but rare or absent historically, and Boone Creek sunfish are small relative to sizes in the early 1990s. In 2012 fish species richness was recorded at each site during the bioaccumulation sampling effort to evaluate potential changes in fish populations since 1999, when ORNL fish community surveys were performed. Stream community and habitat survey results from 2012 are provided in Appendix B.

Semi-permeable membrane devices (SPMDs) were deployed within cages at 13 sites (Figure 2) on May 16, 2012 and retrieved June 13-14, 2012. These sites include the same locations on Indian Creek and the Blue River sampled for fish: ICK0.2, ICK1.0, ICK3.0, BLK25, BLK27, and BLK31. Additionally, SPMDs were placed at four sites on Boone Creek and at three major outfalls: outfalls 001, 002, and 003/004. At outfall 002 an additional SPMD was placed above the water and in air within the outfall. A trip blank was also analyzed.

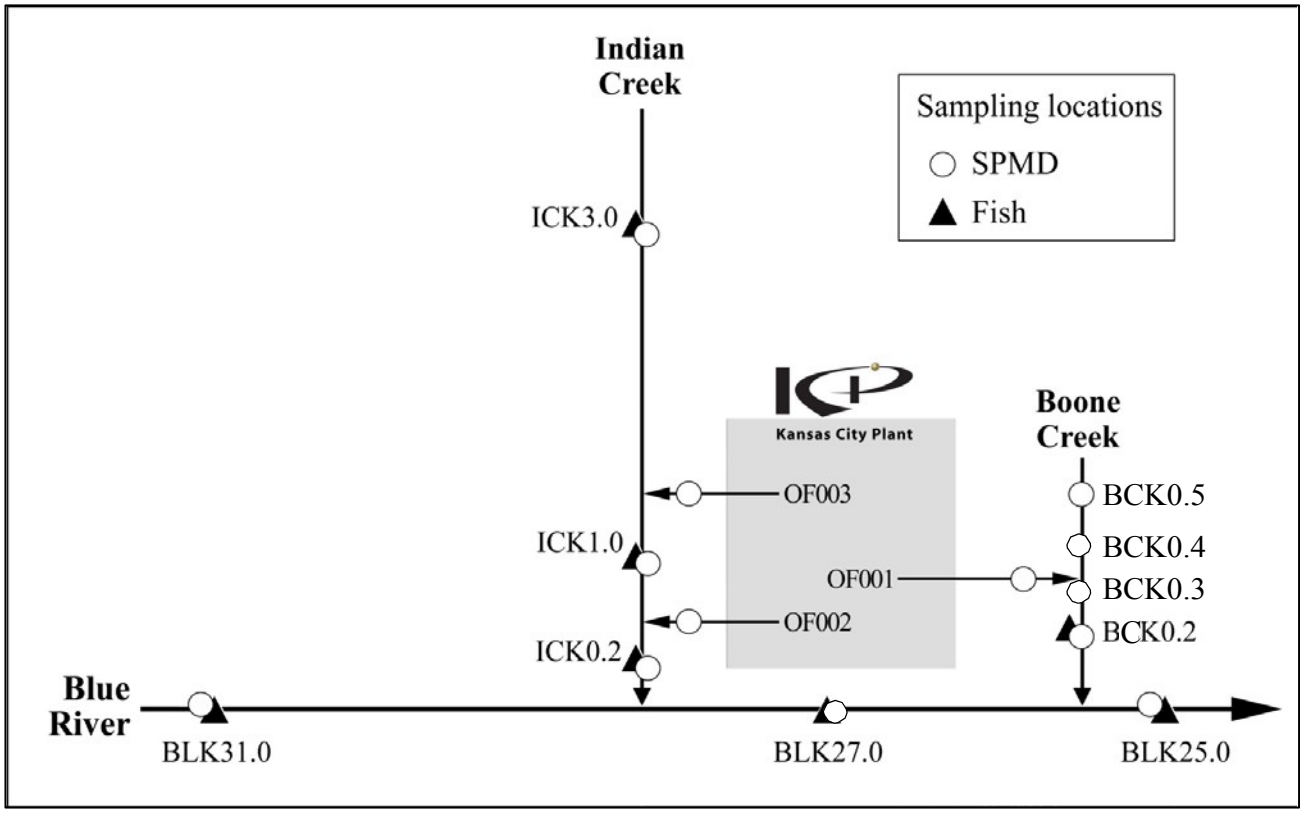

Figure 2. Fish and SPMD sampling locations relative to Kansas City Plan outfalls, June 2012.

Figure 3. Fish species collected from stream and river sites near the Kansas City Plant: green sunfish (*Lepomis cyanellus;* left) and channel catfish (*Ictalurus punctatus;* right).

2.3 Sample Processing

Retained fish were identified using unique tag numbers. Per Animal Care and Use guidelines for federal facilities and ORNL Animal Care and Use Protocol #0356, fish were euthanized at the sampling site, before being placed in labeled coolers with ice.

All fish were weighed, measured, sexed, and filleted within 24 hrs of collection. Green sunfish were de-scaled prior to excising fillets, but the skin was left on. Skin was removed from channel catfish. All fish fillets were individually foil wrapped, labeled, frozen and transported on ice back to ORNL where they were immediately frozen at -20°C. Channel catfish fillets were homogenized at the ORNL fish processing laboratory by making three passes of the frozen fillets through a #10 meat grinder. A subsample of the thoroughly homogenized, triple-pass ground catfish tissue was then packaged for eventual submission to the analytical laboratory, and for sample archive. Sunfish fillets were submitted as-is to the analytical laboratory, without homogenization.

The SPMDs, which are basically low-density polyethylene lay-flat tubing filled with a triolein or similar type oil, were prepared in 2012 by a subcontract laboratory. The requested number of SPMDs were shipped to ORNL in labeled cans, which were used for shipping back to the laboratory later in the process. The tubes were attached to a test tube rack and placed in labeled plastic cages, as shown in Figure 4. The cages were shipped to KCP staff for deployment. After the caged SPMDs were placed at the sampling locations for four weeks, ORNL staff removed the cages from the stream, removed the SPMDs, and placed them in the original labeled containers. The containers were brought back to ORNL at the end of the June field campaign, and shipped to a subcontract laboratory for extraction. The extracts were then submitted back to ORNL and placed in storage at -20°C until submitted to an analytical laboratory for PCB analysis.

2.4 Analytical Methods

All fish and SPMD samples obtained for the 2012 assessment were analyzed by Pace Analytical Services, Inc. for both Aroclor-based analyses (SW846 Method 8082) and also by high resolution gas chromatography/mass spectrometry using isotopically labeled internal standards (EPA Method 1668a). Fish samples were prepared by Soxhlet Extraction - SW846 Method 3540B; SPMDs were extracted by the subcontract laboratory before respective analyses. Congener results can provide an assessment of the proportion of the total PCBs comprised of the most toxic congeners and insight on the forms of PCBs from the facility and their presence in area waters. Aroclor results, on the other hand, may be more comparable to historical Aroclor results from near the KCP as well as other results across the country, as Aroclor analysis is less costly than congener analysis and is by far the most common analytical method for PCBs in fish.

Considerable effort was made to obtain low detection limits for this study. Important factors that influence the detection limit is sample size, the presence of interferences or other PCB mixtures and instrument limits. Because of the small sample sizes available for some individual sunfish, the very low PCBs present at some sites, and the desire for larger sample sizes to obtain very low detection limits, it was necessary to prioritize the available tissue by PCB analysis. In cases where sample sizes were deficient for both analyses, the congener analysis was given the most sample because of the greater amount of information the congener analyses provides for toxicity evaluation and source identification.

Figure 4. Semi-permeable membrane devices (SPMDs) are comprised of polyethylene tubes containing a layer of oil and are deployed by wrapping around a test tubed rack and caged to help prevent damage from debris or biota during deployment. Various cage setups are used depending on whether deployed at a stream or storm drain site.

2.5 Data Analysis

To evaluate and interpret sampling results, mean total PCB concentrations (± standard error) are provided in summary tables and graphs, by method, for fish and SPMDs at each site. Depending on the media and the method, results are reported for each site and species in ug/g or mg/kg (parts per million), ng/g or µg/kg (parts per billion), or ng/kg (parts per trillion). For each calculation of total PCB for an individual sample, only detected aroclors and detected congeners were used. In cases where all aroclors and congeners were not detected, the highest detection limit value was used for the value of total PCBs, with the associated nondetect qualifier. Likewise, if nondetect values were found within the 6-8 fish comprising the total PCB mean for a given site/species combination, only the detected values were used in calculating the mean. As a result, the mean concentration calculated this way is likely to be biased higher than the actual mean value if all PCBs could be detected. As part of the data analysis summary statistics were also calculated using the detection limit value in the mean, as well as using half the detection limit, and it was concluded that the approach to calculating means with nondetect results was not deemed to be a significant influence on the results or interpretation.

Some congeners co-elute during gas chromatography analysis and are therefore indistinguishable and reported as a single combined value. These combinations are usually referred to by the lower numbered member of the group. The 2012 PCB data contained 209 congeners of which 47 are coelutants thereby

leaving 162 congeners that were used to calculate total PCBs and for data analysis.

The congener data was used to estimate the potential toxicity of the PCBs found near the KCP. Most of the toxicity and carcinogenic risk associated with PCB mixtures arises from a small number of PCB congeners whose chemical structures and toxicological mode of action resemble that of 2,3,7,8 tetrachlorodibenzodioxin, commonly referred to as TCDD or 'dioxin'. TCDD is the most toxic of a class of highly toxic chlorinated organic compounds known as chlorinated dibenzodioxins and chlorinated dibenzofurans. The toxicity of the constituents of this group, as well as the 'dioxin-like' PCBs (numbers 77, 81, 105, 114, 118, 123, 126, 156, 157, 167, 169, and 189), has been evaluated by EPA and normalized to TCDD, using a 'Toxicity Equivalent Factor', or TEF. In this scheme, TCDD would have a TEF of 1, and other dioxin-like chemicals factors of 1 or less (Van den Berg et al. 2005). The dioxin-like PCBs generally have TEF's of 0.00003 to 0.0001, with two congeners (PCB-126 and PCB-169) having higher values (0.1 and 0.03, respectively) (Van Den Berg et al. 2006). Within mixtures such as environmental PCB extracts, the concentration of each of the 12 dioxin-like PCB congeners is multiplied by its TEF to generate a Toxic Equivalent (TEQ). The TEQ's of the mixture's components can then be summed to yield a single value that can be used in risk analyses. Increasingly, EPA has recognized the scientific value and utility of using TEQ-type risk evaluations and acknowledges the pitfalls of Aroclor-based studies that may overestimate the risk (EPA 2008).

The key approach to the 2012 data analysis was to assess differences among sites, species, and years by comparing individual Aroclor or congener means and variability for each site- species combination. This basic spatial and temporal approach to the KCP PCB evaluation has been followed since 1991. Because of standardization of site locations upstream and downstream of specific KCP storm drain discharges, the comparison provides some insight on the role of current discharges on fish bioaccumulation.

To help visualize trends in PCB concentrations, congener results from channel catfish and green sunfish samples collected in 2012 were analyzed with a principal components analysis (PCA). Principal components analysis simultaneously analyzes multiple variable and among multiple observations. The results can provide information on relative group differences (e.g., spatial trends), and can help identify the variables that contribute the most to group differences. The value of using PCA for analysis of PCB congeners has been demonstrated for a variety of species (Van den Brink et al. 2003; Papp et al. 2007).

Prior to running PCAs, the relationship between lipids and PCB concentrations was evaluated separately for each species with an analysis of covariance (ANCOVA) to determine if a correction for lipid content was needed (Quinn and Keough 2002). Total PCB concentrations for each sample from 2012 were calculated as the sum of all detected congeners, and then Log10 transformed to reduce heteroscedasticity. Percent lipid content was included as the covariate in the ANCOVA, with site as the main effect. Samples from reference sites were excluded from the analyses since their lower PCB concentrations increased the amount of skewness in the data sets, thereby, lowering the ability to detect relationships if they existed.

The ANCOVA indicated a dependency of PCB concentrations on lipid content only for catfish, thus, % lipid was used as a covariate in a partial PCA, while results for green sunfish were analyzed with a standard PCA (see Table C-1, Appendix C). Like ANCOVA, a partial PCA "partials" out the variation of a covariate as well (Legendre and Legendre 2012). While including only the congeners detected in all samples in an analysis can be informative, other congeners maybe unique either to specific sites or species, thus, their inclusion in an analysis could provide more insight on PCB sources and spatial characteristics. Because most congeners were not detected in all samples, several steps were taken in the selection of congeners to include in the analyses for each species. First, congeners detected in only 7 samples (46 total catfish samples and 56 total green sunfish samples) for a species were excluded, while Congeners detected in ≥20 samples were retained unless there were multiple samples in which a

congener was detected but not quantifiable due to an analytical interference. Congeners that were detected in 8 to 19 samples were evaluated individually for retention; those congeners that were generally near the analytical detection limits in most samples were excluded unless they appeared to be a potentially unique "marker" for a specific location (e.g., they were detected in all or most samples from one or more sites). The final data set included 100 congeners for the combined species data set, 103 congeners for channel catfish and 111 congeners for green sunfish. Missing values are not allowed in a PCA, therefore, substitute values were used for non-detected congeners and those for which an analytical interference prevented quantitation. For congeners below the detection limit, a value equal to half the sample detection limit was used. For congeners with interferents and no analytical detection limit values provided, one of two methods was used to derive estimates. If the congener was detected in all other samples from a site, then the average concentration from those values was used. If, on the other hand, congener concentrations were below the detection limit in one or more of the other samples from a site, a mean was calculated from all detected and stated detection limit concentrations, and then value equal to half the mean was used in the analysis. An initial PCA that included both species was run on all sites; lipids were not considered in this analysis. Results for green sunfish were analyzed with a standard PCA (i.e., no partial variable included) using PC-ORD for Windows software (MJM Software, version 6.08), and results for channel catfish were analyzed with a partial PCA with PROC FACTOR in Statistical Analysis Software (SAS) for Windows (version 6.1.7601). The analyses were based on a correlation matrix which first standardizes the variables (i.e., congener concentrations) to the standard deviate across all samples ("z-scores") (Legendre and Legendre 2012). This ensures that all variables (i.e., congeners) are given equal weighting in the analysis. The data sets for each species were first analyzed with all samples from all sites, and then a second PCA was run on each data set in which reference site data were excluded. A third PCA was run on the green sunfish results that excluded the reference sites and BCK0.2. Exclusion of all but the downstream sites on the Blue River and Indian Creek, improved visualization and assessment of PCB patterns among sites.

2.6 Quality Assurance/Quality Control/Safety

All personnel involved in sample collections attended health and safety reviews prior to collection activities. These briefings detailed the activities to perform, potential hazards, applicable work controls, procedures and protocols, stop work authority, emergency response, emergency contacts, and evacuation and hospital routes. ORNL staff is trained in bioaccumulation sampling (Research Safety Summary 1034.5), electrofishing safety (Research Safety Summary 5041.0), and institutional animal care (Animal Care and Use Protocol #0356).

ORNL's Quality Management System (QMS) has been developed to implement the requirements as defined in DOE Order O 414.1D, Quality Assurance and 10 CFR 830 Subpart A, Quality Assurance Requirements, for nuclear facilities, radiological areas, and programs and activities that have the potential to impact nuclear or radiological safety. The methods used for successful implementation of the QMS rely on the integration and implementation of quality elements/criterion flowed-down through multiple management systems and daily operating processes. These management systems and processes are described in the ORNL Standards-Based Management System (SBMS) where basic requirements are communicated to staff. The QMS provides a graded approach to implementation based upon risk.
The Quality Assurance Program (QAP), which is part of the QMS, has been developed to describe how quality requirements at ORNL are implemented. Additionally, the QAP allows for the use of applicable national or international consensus standards for the accomplishment of work. ORNL has adopted ISO9001:2008 as a Laboratory consensus quality standard. Adoption of ISO 9001:2008 provides the level of rigor and flexibility necessary for the wide range of activities conducted at ORNL, including compliance with ANSI/ASQ E-4, Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs, 2004.

The ORNL QAP complies with the QA requirements of the EPA. It addresses the main topic areas in EPA/Q5, EPA Requirements for Quality Assurance Project Plans. It is supported by ESD-QAP-04, ORNL Quality Management Plan for U. S. Environmental Protection Agency Projects, which restructures the ORNL QA Program into a format consistent with EPA QA/2, EPA Requirements for Quality Management Plans.

At the programmatic level, the KCP Biological Monitoring Program follows the QA requirements specified in the Ecological Assessment Science Team QA Plan. The team plan was developed based on guidance from the ORNL QAP, and is specific to the QA needs associated with field sampling and biological monitoring work. All samples were collected and processed according to project-specific Standard Operating Procedures (SOPs) to ensure quality and integrity. Chain-of-custody documentation followed all fish and SPMD samples from collection to submission to the analytical laboratory. BMAP quality assurance procedures are consistent with EPA recommendations for assessing chemical contaminant data for use in fish advisories.

Evaluation of the quality of the analytical data was evaluated by a variety of internal analytical laboratory QA checks consistent with a Level 3 data package. In addition a number of blind duplicate analyses and analyses of uncontaminated fish and blank samples were performed. The fish QA data from the 2012 sampling indicate that the PCBs results are of high quality and considered acceptable for their intended use. Like past years, the SPMD trip blank was relatively high, suggesting low PCB results from some KCP sampling sites may not definitively indicate PCB exposure at the site of collection. SPMD results should be considered an additional indicator of PCB sources and not a definitive measure of the magnitude of PCB exposure.

3. RESULTS

3.1 Sampling and Analysis

The sample and laboratory collection information from the June 2012 field campaign are provided in Appendix A (Table A-1, Table A-2). In general, the 2012 biological collection effort was highly successful. Eight fish of each historically-collected species (channel catfish and green sunfish) were collected from each site with the exception of Boone Creek, where no channel catfish were collected (only one individual has been collected from this small stream since 1991), and ICK 0.2, where 6 channel catfish were collected. Fish sizes were within the ranges observed near KCP in previous years. Consistent with previous surveys, at some locations green sunfish in particular were smaller than desirable (<40 grams). As a consequence, at BLK31.0 only congener analysis for the sunfish could be performed, and at ICK1.0 and ICK3.0 small tissue sizes for Aroclor analysis resulted in relatively high detection limits. However, based on the effectiveness of the electrofishing effort (2012 fish community results are presented in Appendix B), the sunfish collection is thought to be representative of the available fish sizes from each sampling reach.

The SPMD deployment in 2012 was less successful. Five SPMDs were retrieved from stream water or outfall water as was designed. One SPMD was purposefully put in the air of the storm drain pipe and was successfully retrieved. However, at 8 sampling locations, SPMDs were either lost or found out of the water. An extremely high flood event during the deployment period was undoubtedly a factor affecting deployment success.

3.2 2012 Fish Results

The average total PCB concentrations in sunfish and channel catfish from stream and river sites upstream and downstream of the KCP ranged between a low of 0.01 µg/g to a high of 0.32 µg/g (Table 1). As expected, higher PCB concentrations were found in fish downstream of KCP discharges in both Indian Creek and the Blue River with lower levels of PCBs detected in fish collected upstream of the plant. The highest PCB concentrations in sunfish from any site were found in fish from Boone Creek (average approximately 0.3 ug/g). In general fish from the lower Blue River, for both species, were higher than fish collected from lower Indian Creek. PCB concentrations in catfish from the Blue River (BLK 27.0 and 25.0) averaged in the 0.26-0.28 µg/g range according to both Aroclor and congener analyses, 0.10 to 0.20 µg/g at the lower sites in Indian Creek (ICK0.2 and ICK 1.0), and 0.01 to 0.03 µg/g at the two reference sites upstream of KCP discharges in both Indian Creek and the Blue River. Green sunfish, as expected, were lower in PCBs than channel catfish collected from the same sites, but sunfish exhibited a similar spatial pattern in the Blue River and Indian Creek: PCB concentrations were highest at the two Blue River sites (0.13 – 0.17 µg/g), lower at the two lowermost Indian Creek sites (0.01 – 0.10 µg/g), and lowest at the reference sites (0.004 – 0.03 µg/g). The spatial pattern of PCB concentrations in both fish species in 2012, for both Aroclor and congener analyses, is depicted in Figure 5.

PCB concentrations in fish were primarily quantified by Aroclor analysis as Aroclor 1242 and Aroclor 1254, although at some sites 1248 and 1260 were also detected (Appendix Table A-1). In general, Aroclor 1254 and Aroclor 1260, representing more weathered and higher chlorinated PCBs, are the most common Aroclors found in fish across the country. Although relatively unusual nationally, the presence of Aroclor 1242 in fish is expected given its past use at the KCP (albeit it was not detected in 2007). The difference in the relative Aroclor contributions to the total PCB concentration among years at KCP reflects, in part, the subjective judgment of the analytical chemist. The chemist must assign a designation to overlapping peaks and/or weathered PCB extracts that have an altered pattern of chromatographic peaks in comparison to standards based on the original commercial mixtures.

Total mean PCB concentrations calculated by Aroclor and congener analysis, for each site-species combination, were almost identical in 2012 (Table 1; Figure 5). The greatest absolute differences were between analyses of green sunfish at ICK0.2 and channel catfish at ICK1.0, where in both cases the mean PCB concentration by Aroclor analysis was higher. However, PCB variability for the two analyses was high, and not likely to be statistically different (Figure 5).

In addition to the total PCB concentration by congener analysis, also reported in Table 1 is the total mean PCB concentration by site-species of the 12 dioxin-like congeners, the proportion of congeners that represent the most toxic (i.e., the 12 dioxin-like congeners divided by the total congeners), and the mean calculated TEQ for each site-species combination. As expected, the quantity of toxic congeners was much smaller than the total congener values, and the TEQ concentrations for each site- species

Table 1. Mean PCBs by total Aroclors, total congeners, and 12 dioxin-like congeners (µg/g, ± SE), the % toxic proportion, and calculated TEQs (µg/g) in channel catfish (*Ictalurus punctatus*) and green sunfish (*Lepomis cyanellus*) from streams near the Kansas City Plant, June 2012. N=8 individual fish collected from each site except N=6 fish at ICK 0.2.

Site	PCBs			Toxic proportion (%)	TEQ
	Mean Total Aroclors	Mean Total Congeners	Mean 12 Dioxin-like Congeners		
CHANNEL CATFISH					
Indian Creek					
ICK 3.0	0.03 ± 0.01	0.02 ± 0.00	0.002 ± 0.000	9.1	$0.46x10^{-7}$
ICK 1.0	0.20 ± 0.09	0.10 ± 0.04	0.005 ± 0.002	4.8	$1.46x10^{-7}$
ICK 0.2	0.14 ± 0.03	0.13 ± 0.04	0.006 ± 0.002	4.6	$1.85x10^{-7}$
Blue River					
BLK 31	<0.02	0.01 ± 0.00	0.001 ± 0.000	5.4	$0.21x10^{-7}$
BLK 27.0	0.26 ± 0.05	0.28 ± 0.06	0.007 ± 0.002	2.6	$2.21x10^{-7}$
BLK 25.0	0.27 ± 0.02	0.26 ± 0.02	0.010 ± 0.001	3.7	$2.90x10^{-7}$
GREEN SUNFISH					
Indian Creek					
ICK 3.0	<0.11	0.004 ± 0.00	0.0004 ± 0.000	8.2	$0.12x10^{-7}$
ICK 1.0	<0.06	0.01 ± 0.00	0.001 ± 0.000	4.5	$0.16x10^{-7}$
ICK 0.2	0.10 ± 0.04	0.05 ± 0.01	0.002 ± 0.000	3.5	$0.70x10^{-7}$
Blue River					
BLK 31	NA	0.03 ± 0.02	0.002 ± 0.001	4.6	$0.54x10^{-7}$
BLK 27.0	0.13 ± 0.01	0.14 ± 0.03	0.004 ± 0.001	3.1	$1.67x10^{-7}$
BLK 25.0	0.17 ± 0.03	0.14 ± 0.02	0.004 ± 0.000	2.5	$3.28x10^{-7}$
Boone Creek					
BCK 0.2	0.32 ± 0.07	0.29 ± 0.05	0.011 ± 0.002	3.8	$8.25x10^{-7}$

[a]Mean of 12 dioxin-like congeners divided by the total congeners.

Site designations include Indian Creek (ICK), the Blue River (BLK) and Boone Creek (BCK). Site number designations refer to approximate kilometer distance upstream of the stream or river mouth.

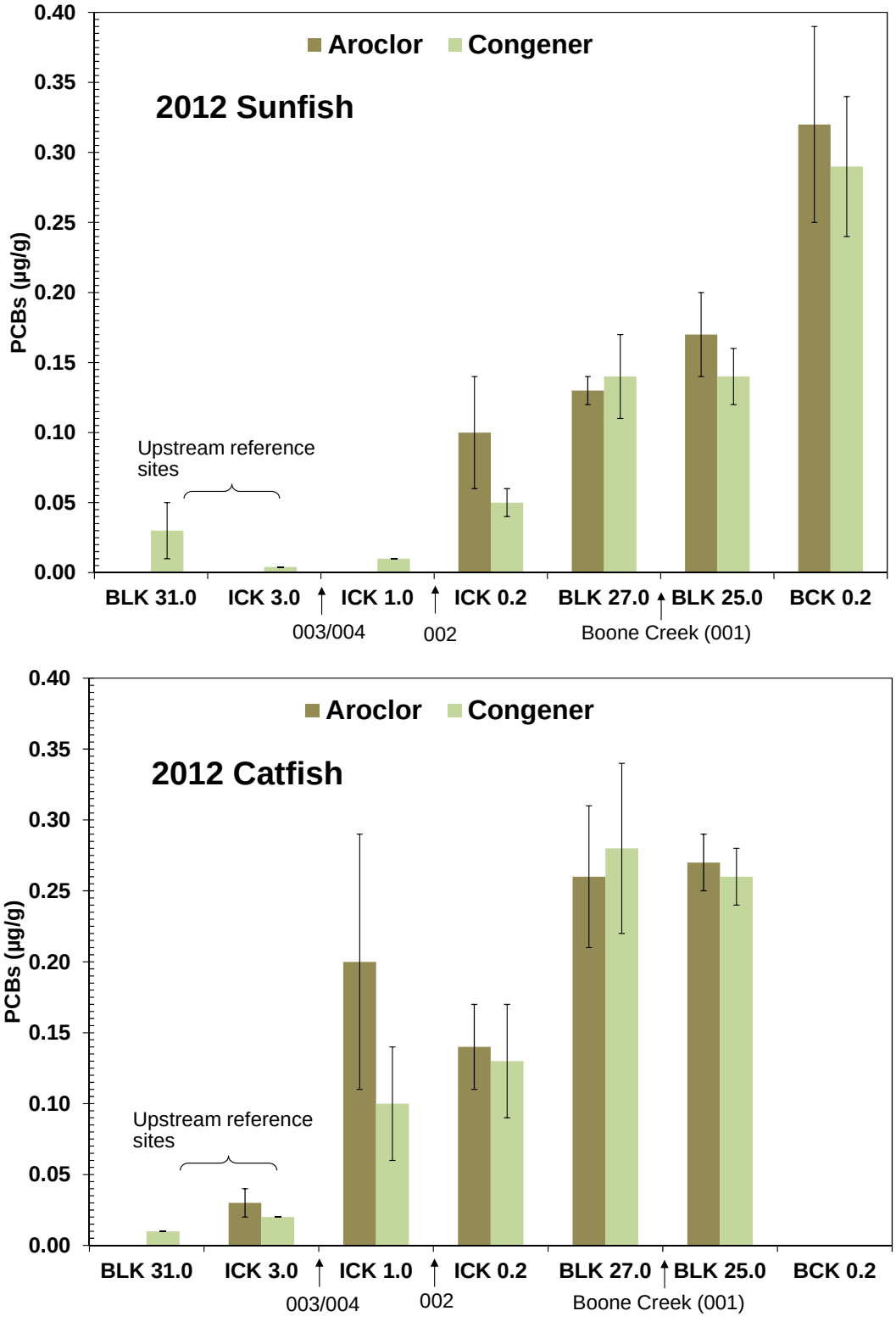

Figure 5. Spatial pattern of mean total PCB concentrations by Aroclor and congener analysis (ug/g) in green sunfish (top graph) and channel catfish (bottom graph) from Indian Creek (ICK), the Blue River (BLK31), and Boone Creek (BCK), 2012. Site number designations refer to kilometer distance upstream of the stream or river mouth.

combination was even smaller. The percentage of the total PCB concentrations in fish that were comprised of the most toxic dioxin-like congeners ranged from 2.5 to 9.1%, with the spatial pattern of the 12 dioxin-like congeners being very similar to the total PCB results. That is, the lowest 12 dioxin-like congener PCB means was at the reference sites and the 12 dioxin-like congener PCB concentrations in fish increased with distance downstream. Interestingly, the proportion of the total PCBs made up by the 12 dioxin-like congeners was highest at the reference sites, and decreased with distance downstream. Although the proportion of dioxin-like PCBs was smaller with distance downstream, the magnitude difference in concentrations between the sites resulted in TEQs with a similar spatial trend as the total PCB and the 12-congener PCB results (Table 1). That is, fish from the most downstream reaches of Indian Creek and the Blue River exhibited the greatest potential toxicity as calculated with the TEQ approach. Boone Creek sunfish TEQs were the highest of any site sampled for this study, consistent with the higher PCB concentrations found in those fish.

3.3 2012 Semipermeable Membrane Device (SPMD) Results

The 2012 SPMD results by Aroclor and congener analysis are presented in Table 2. Included are the reported total PCB results and the results minus the trip blank. SPMD oils are very sensitive to PCB exposure and can take up PCBs from the air. Only values substantially higher than the trip blank concentrations should be considered representative of PCB exposure from the site of collection. Sampling locations, including sites in storm drains and stream sites, are indicated in Figure 2.

Despite missing information from some sites, the SPMD PCB data is remarkably consistent with the fish PCB trends. Within stream locations, the highest reported PCB concentrations were in SPMDs placed at the two sites in the Blue River downstream of Indian Creek, followed by Boone Creek. The reported PCB concentrations in Indian Creek at ICK 0.2 was higher than the concentration reported upstream at ICK 3.0, indicating potential higher PCB exposure downstream of KCP discharges; however, both Indian Creek site PCB concentrations were less than the trip blank.

The highest PCB concentrations in SPMDs from any site were from the wet and dry locations within outfall 002, which enters Indian Creek upstream of ICK 0.2. Historically outfall 002 is known to be a source of PCBs to Indian Creek, although changes to the 002 flow regime (removal of single pass cooling water discharges and installation of the 002 reroute system) have substantially decreased total water concentration and flux from the storm drain in recent years. The similar and relatively high (when compared to other sample stations) levels in water and air from outfall 002 suggest there may be localized "hot-spot" conditions where water-air exchanges of PCBs are occurring. The phenomenon of potential "hot-spots" is being further investigated under the Indian Creek/Blue River Fate & Transport Study Work Plan (Anchor QEA 2013). PCB concentrations were also elevated in SPMDs placed at outfalls 001 (entering Boone Creek) and 003/004 (entering Indian Creek).

As might be expected based on the higher PCBs in Boone Creek fish, PCBs were elevated in SPMDs placed at BCK 0.2. Elevated PCBs in SPMDs placed within the 001 outfall point to that outfall as a source to Boone Creek; however, previous SPMD deployments in 2005 and 2007 have found elevated PCB concentrations upstream of the 001 outfall, indicating another PCB source in the watershed. The 2012 SPMD cages placed in upstream Boone Creek were either lost or found out of the water, but aqueous PCB concentrations have been obtained by KCP staff during 8 sampling events from 2009-2013, providing an indication of current spatial PCB trends. The mean PCB concentration in Boone Creek water over that period downstream of 001 was 41.3 ng/L, while the concentration upstream of 001 was 47.2 ng/L. Thus, the available recent evidence continues to support the past finding that there are multiple sources of PCBs to Boone Creek.

Table 2. Total PCB concentrations (µg/g wet wt) by Aroclor and congener analysis determined from semipermeable membrane devices (SPMDs) deployed near the Kansas City Plant, May – June, 2012.

Site	Deployed	Retrieved	Field notes	Total Aroclor	Total Congener	Total Aroclor minus blank	Total Congener minus blank
Indian Creek							
ICK3.0	5/16/12	6/13/12	SPMD out of the water	0.601	0.284	0	0
OF003/004	5/16/12	6/14/12	Fully submerged	2.186	1.519	0.87	0.80
ICK1.0	5/16/12	lost	SPMD missing from cage				
OF002	5/16/12	6/13/12	Wet deployment	18.033	12.459	16.72	11.74
OF002 (air)	5/16/12	6/13/12	Dry deployment	13.880	10.383	12.57	13.16
ICK0.2	5/16/12	6/13/12	SPMD out of the water	1.202	0.489	0	0
Blue River							
BLK31	5/16/12	lost	Unable to locate cage				
BLK27	5/16/12	6/13/12	Fully submerged	11.148	6.907	9.84	6.19
BLK25	5/16/12	6/14/12	Fully submerged	13.224	9.093	11.91	8.37
Boone Creek							
BCK0.5	5/16/12	6/13/12	SPMD out of the water	0.689	0.528	0	0
BCK0.4	5/16/12	lost	Unable to locate cage				
OF001	5/16/12	6/13/12	SPMD out of the water	2.623	2.492	1.31	1.77
BCK0.3	5/16/12	6/13/12	SPMD out of water	1.530	0.905	0.22	0.18
BCK0.2	5/16/12	6/13/12	Fully submerged	1.749	1.945	0.44	1.23
Trip blank	5/16/12	6/13/12	Kept at KCP/ORNL	1.311	0.720		

3.4 Principal Components Analysis (PCA) Results

For many of the fish samples collected at KCP area locations, the principal components analysis revealed a pronounced difference between species (Figure 6). The PCA analysis provides evidence of not only a species-specific difference in the level of PCBs as described earlier (Table 1; Figure 5), but also a difference in the congener proportions. Although specific sites are not highlighted in Figure 6, the small cluster of symbols for both species that are centered over Axis 1 on the left side of the plot are primarily samples from the reference sites on the Blue River and Indian Creek. Thus, the PCB congener proportions associated with low-level PCB concentrations were similar between species collected at reference sites, but very different at the other sites. Results for congener means (Table 1; Appendix A) combined with the trends depicted in the PCA indicate a general trend of increasing congener concentrations in samples from the left to right side of the plot along Axis 1 (Figure 6).

Because of the apparent differences among the two species, PCAs were performed on the two species separately to pursue possible differences among sites. The results of the PCAs on the individual species appear to provide some clarity on spatial trends in congener concentrations (Figures 7 and 8). Results for both species indicate PCB accumulation trends in congeners by both species are fairly distinct between the Blue River and Indian Creek. As demonstrated in the PCA on the combined results from both species, congener loadings on the first two PCA axes indicate distinct concentration gradients. For green sunfish, congener concentrations showed an increase in samples going from the right to left side of the PCA plots (Figure 7, top and bottom plots; Table C-2 and Figure C-1, Appendix C). Furthermore, the strong distinction between BCK0.2 and the downstream sites in the Blue River and Indian Creek remained in the results from a PCA that excluded the reference sites (results not shown), indicating a strong concentration difference between Boone Creek and the other sites. Thus, these indicate that highest concentrations of PCBs are present in fish from Boone Creek, followed by the Blue River sites. For channel catfish, the PCA ordination plot and congener loadings indicated an increase in PCB congener concentrations moving from the left to right-hand side of the plot (Fig. 8; Table C-3 and Figure C-2, Appendix C).

Additionally, the congener loadings from the PCAs for each species provided additional information on concentration differences between Indian Creek and Blue River sites (Figure 7 and 8; Appendix C). Variable loadings (i.e., congener loadings) are analogous to correlation coefficients, and thus, provide information on how much variation of a variable is explained by each PCA axis; higher loadings indicate greater correlation with the trends depicted along an axis. Congener loadings for green sunfish indicated concentrations of most congeners were highest at BLK25 followed by BLK27, while lowest concentrations were in fish at ICK1.0. BLK25 had the greatest mix of high and low-chlorinated congeners, especially those above PCB-100. None of the congeners had high loadings associated with ICK 1.0. Compared with the Blue River sites, few congeners had high loadings associated with green sunfish from ICK0.2, but those with a high loadings associated with this site had high chlorine numbers (i.e., congeners PCB-170 through PCB-187).

PCA results and congener loadings for channel catfish from the Blue River and Indian Creek showed more pronounced variation among samples within each site (Figure 8; Table C3 and Figure C2, Appendix C). Even so, as indicated by the PCA centroids for each site, the patterns in congener concentrations at the Blue River sites were clearly different from those at the Indian Creek sites. Congener greater than PCB-100 dominated the loadings for the Blue River sites, while only two congeners >PCB-100 had high loadings associated the Indian Creek sites (PCB 110 and PCB-136).

In summary, the principal components analysis confirms differences among sites and species similar to the total PCB comparisons (e.g., upstream vs below KCP sites), but provides additional evidence of a different congener makeup in fish above and below KCP discharges, and thus different PCB exposure, between sites.

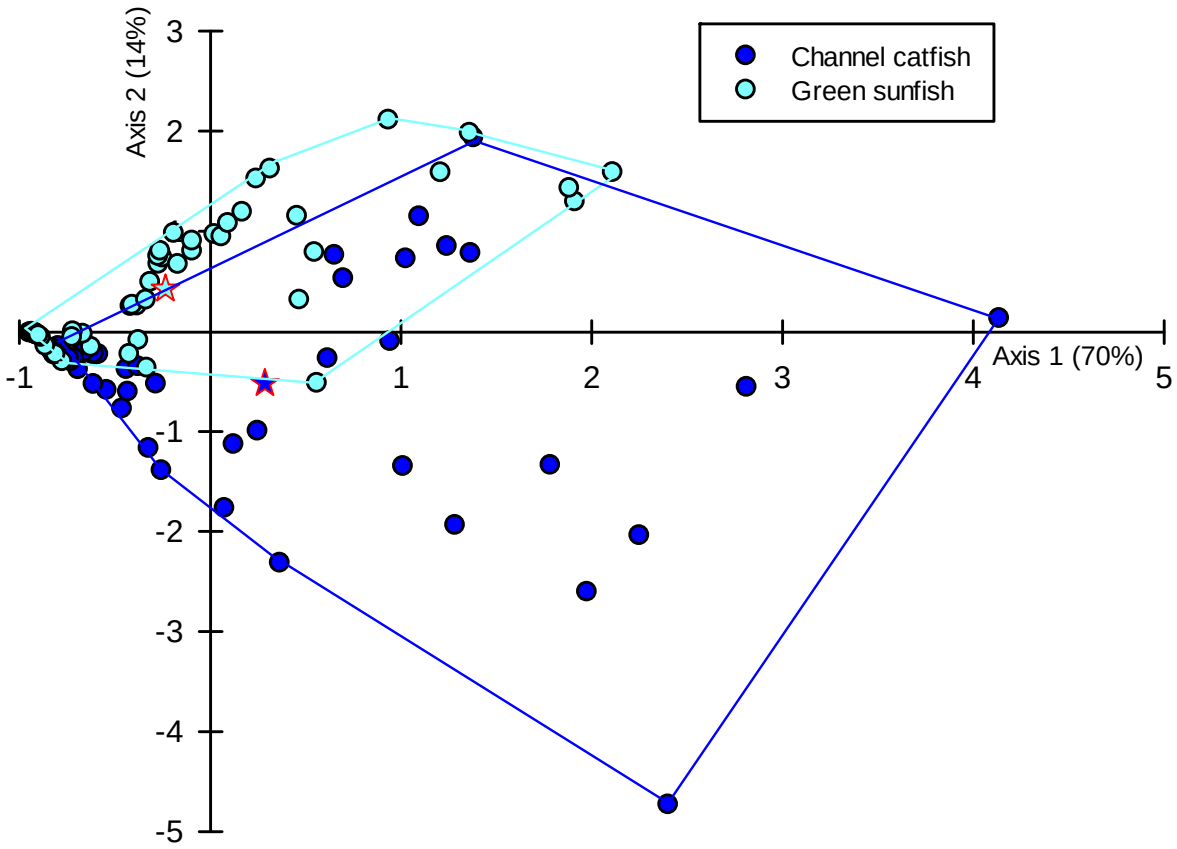

Figure 6. Principal components analysis plot of 2012 channel catfish and green sunfish results from all sites in the Blue River, Indian Creek, and Boone Creek for 100 PCB congeners. Results are grouped by species and all sample results within each species are enclosed within convex hulls. The centroid (i.e., mean scores for Axis 1 and Axis 2) for each species cluster is shown as similar colored star symbols outlined in red. The total variance explained by each axis is shown in parentheses with the axis titles.

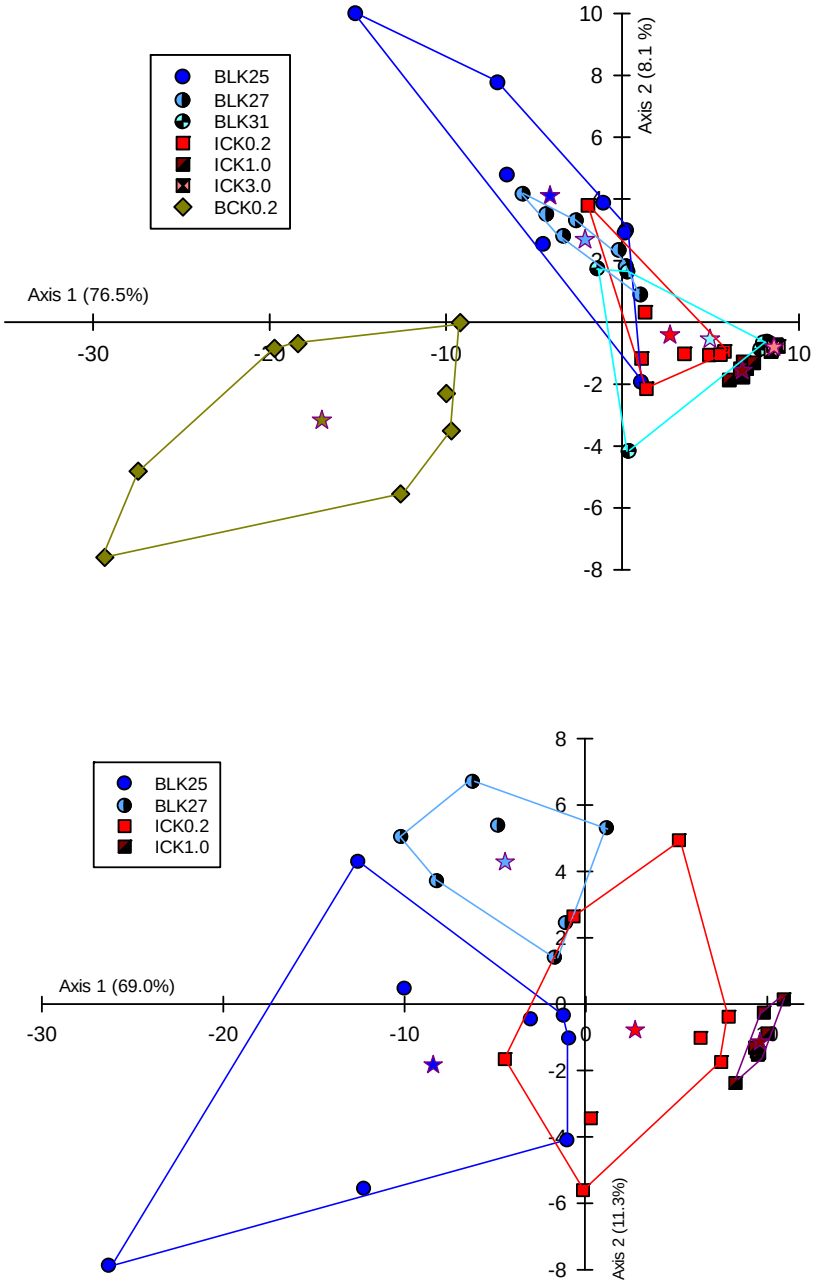

Figure 7. Principal components analysis (PCA) plots for 2012 green sunfish results for the Kansas City Plant. The analyses included 111 congeners (see Table C-2, Appendix C). The top plot shows the results of a PCA that included all sites in the Blue River, Indian Creek, and Boone Creek; sample 18617 from BLK27 was excluded from the analysis because it was a statistical outlier. The bottom plot shows results of a PCA that included only the Blue River and Indian Creek sites located sites downstream of effluent discharges. Results for each site are enclosed within convex hulls. The centroid (i.e., mean) for each site cluster of samples is shown as similar-colored star symbols (i.e., centroids represent mean site results). The total variance explained by each axis is shown in parentheses with the axis titles.

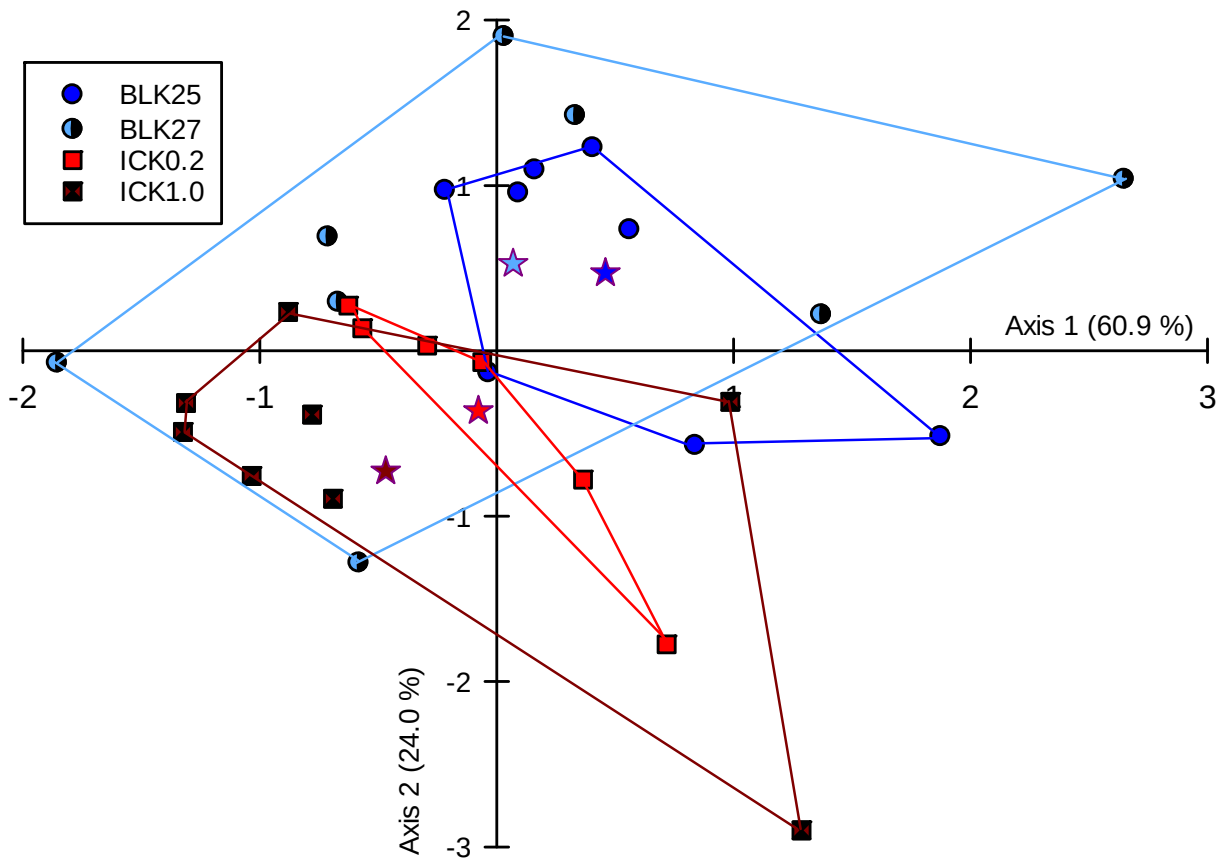

Figure 8. Partial principal components analysis plot for 2012 channel catfish results from the non-reference sites in the Blue River and Indian Creek for 103 PCB congeners. Lipid content (i.e., % sample lipids) was used as the partial variable in the analysis. Results for each site are enclosed within convex hulls. The centroid (i.e., mean) for each site cluster of samples is shown as similar-colored star symbols (i.e., centroids represent mean site results). The total variance explained by each axis is shown in parentheses with the axis titles.

3.5 Temporal Trends

Since 1991 there have been 8 fish sampling campaigns near the KCP that have attempted to collect the same species in the same size range at the same sites, providing a valuable assessment of PCB bioaccumulation trends over time. Temporal comparisons are complicated by a number of factors that have varied across years, including fish species and size availability, analytical methods (Aroclor vs congener), high analytical variability (especially in the early years), and even sample processing differences at some sites (e.g., individual analyses vs composites). Nevertheless, many of the spatial bioaccumulation trends that were observed in 2012 are apparent in almost every year sampled since 1991 (Figures 9-13). Namely, 1) PCB concentrations increase in Indian Creek fish with distance downstream (and below KCP discharges), 2) PCB concentrations in Blue River fish are higher downstream of the Indian Creek confluence (relative to upstream Blue River fish), and 3) in sunfish, Boone Creek fish contain the highest PCB concentrations of any site.

There are two notable temporal trends in the 21-year dataset. First, mean PCB concentrations in green sunfish at the lowermost Indian Creek site (ICK0.2) appear to have decreased steadily since 1993 (Figure 9). Although the 1993 PCB data from this site exhibited high individual fish variability, a composite sample of fish from the 1991 collection at this site was also relatively high (0.35 µg/g, Southworth et al 1992), suggesting that at least some Indian Creek sunfish in the early 1990s accumulated 3-4 fold higher PCB concentrations than observed currently. The decreased PCB concentrations in fish over time are perhaps not surprising given the various remedial and compliance actions at the KCP and the commensurate decreases in PCB releases from OF002 just upstream of the site. In contrast, channel catfish from Indian Creek currently appear to be in the range of PCB concentrations found historically (~0.1 - 0.3 µg/g; Figure 10), although the dataset for this species is less complete in the early years of the program. An additional factor is that channel catfish move greater distances than sunfish and therefore the collected fish likely represent a greater range of PCB exposures.

The second notable trend is the decrease over time in PCB concentrations in Blue River channel catfish (Figure 12). If comparing levels reported in catfish from the Blue River in the mid-1980s (1-2 µg/g), and catfish in the Blue River in the early 1990s (0.7-0.9 µg/g), today's levels in fish are dramatically lower, averaging in the 0.2 to 0.4 µg/g range. Interestingly, Blue River green sunfish have not exhibited a similar decrease over time (Figure 11).

Green sunfish collected from Boone Creek have varied greatly in size over the years as well as the method of collection. During years where only small fish were available, fish fillets from multiple fish were composited to comprise the collection. Regardless of the collection method or the analysis (Aroclor or congener), the PCB concentrations in Boone Creek fish since 1991 have been amazingly consistent, averaging around 0.3 to 0.4 µg/g (Figure 13).

Although there is evidence of declining PCB concentrations since the 1980s and 1990s – depending on site and species - it is less clear that there has been any significant or consistent change in fish PCB concentrations in the last 10 years (2002-2012; Figures 9-13). The PCB congener data was used to make a comparison between the 12 dioxin-like congener levels in fish collected in 2005, 2007, and 2012 (Figure 14). In general, the 12 dioxin-like congener concentrations by site-species were similar in all three years. For each year, the mean dioxin-like congener concentrations exhibited similar site to site spatial trends as found when comparing total PCB concentrations: generally a pattern of increasing PCB concentrations with distance downstream of the reference sites, and Boone Creek being the most contaminated site for sunfish. In contrast the TEQ levels, which were comparatively low in all years, were substantially different across years (Figure 15). In both fish species, 2007 was notably higher in TEQ concentration, primarily due to the higher concentrations of congener 126, which has a relatively high TEF. The 2012 results have not only a low percentage of congeners that are toxic (Table 1), but also relatively low toxicity as measured by TEQ.

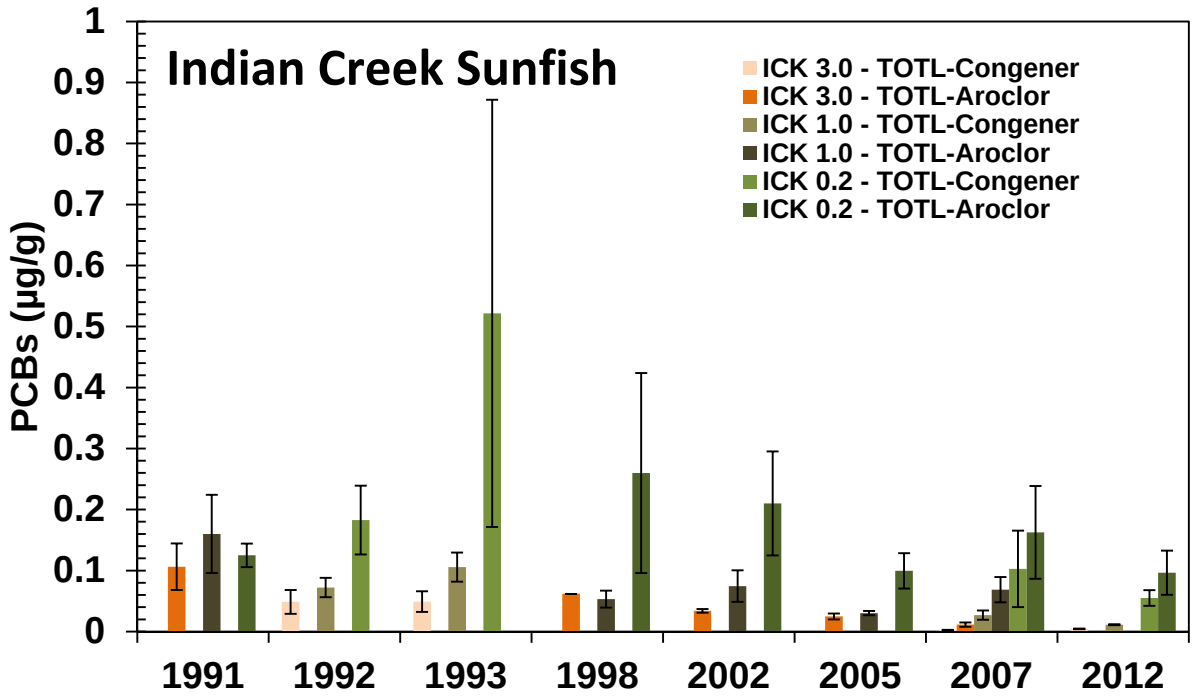

Figure 9. Total mean PCB concentrations (µg/g, wet wt) by Aroclor and congener analysis in green sunfish from Indian Creek (sites ICK3.0, ICK1.0, and ICK0.2), 1991-2012. ICK3.0 results are indicated in orange colors, ICK1.0 in gray/brown, and ICK0.2 in green, with the darker shade indicating the Aroclor analysis.

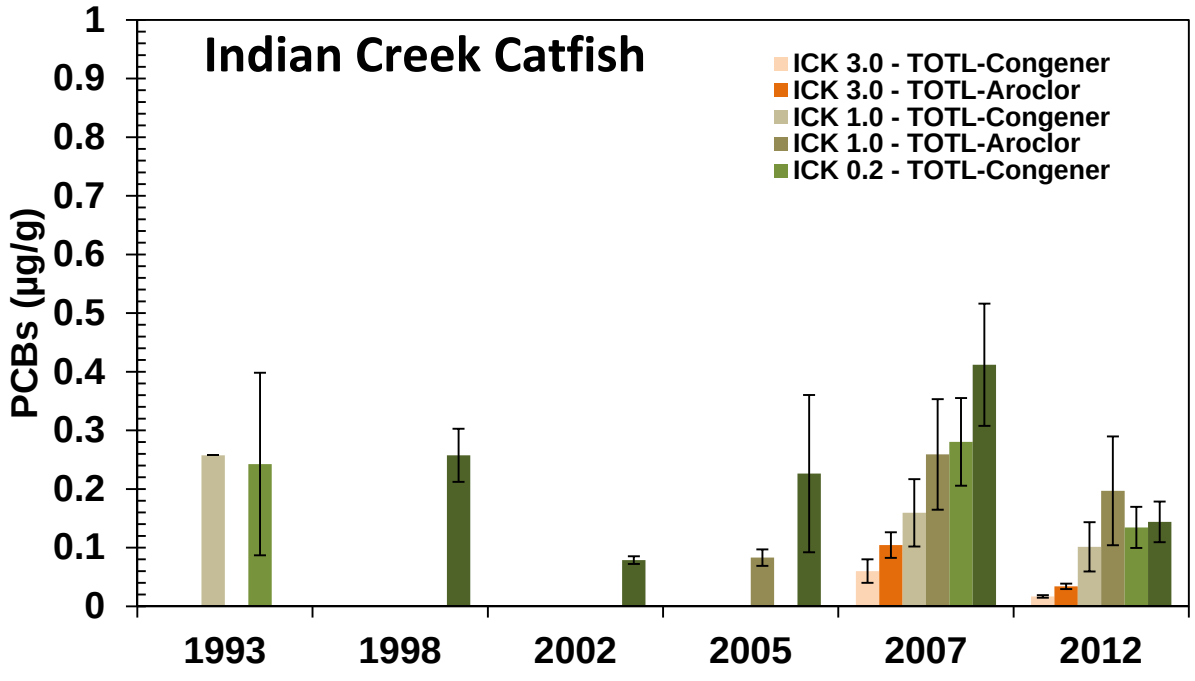

Figure 10. Total mean PCB concentrations (µg/g, wet wt) by Aroclor and congener analysis in channel catfish from Indian Creek (sites ICK3.0, ICK1.0, and ICK0.2), 1991-2012. ICK3.0 results are indicated in orange color, ICK1.0 in gray/browns, and ICK0.2 in green, with the darker shade indicating the Aroclor analysis.

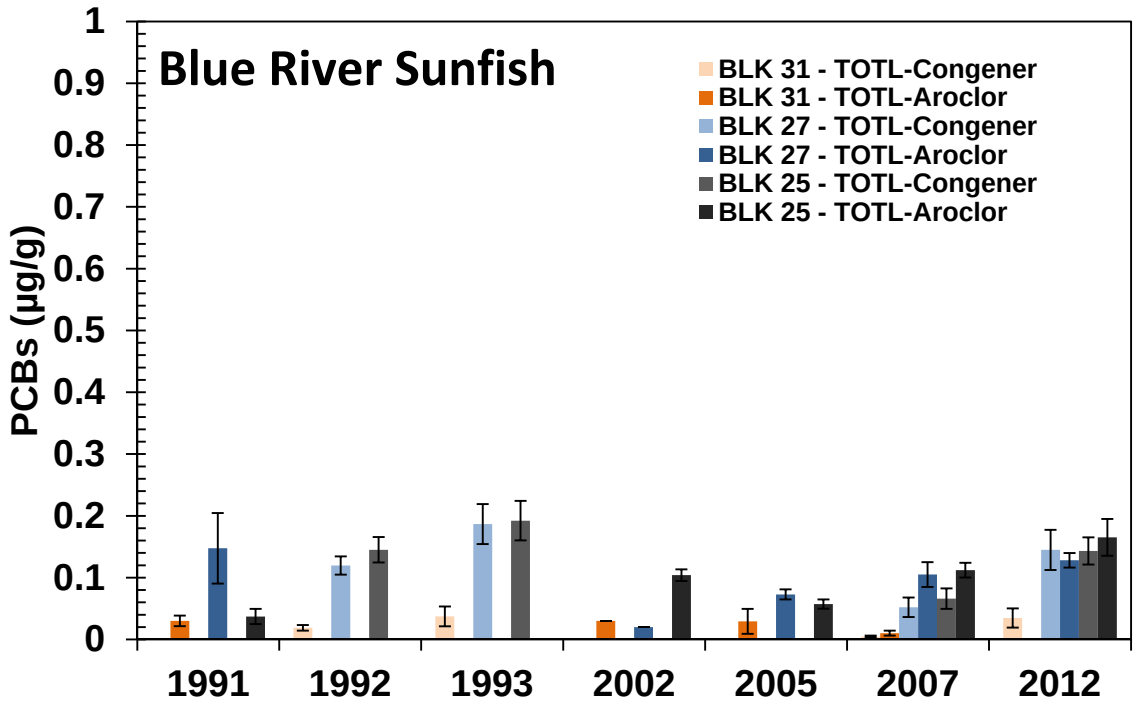

Figure 11. Total mean PCB concentrations (µg/g, wet wt) by Aroclor and congener analysis in green sunfish from the Blue River (sites BLK31, BLK27, and BLK25), 1991-2012. BLK31 results are indicated in orange color, BLK27 in blue, and BLK25 in gray/black, with the darker shade indicating the Aroclor analysis.

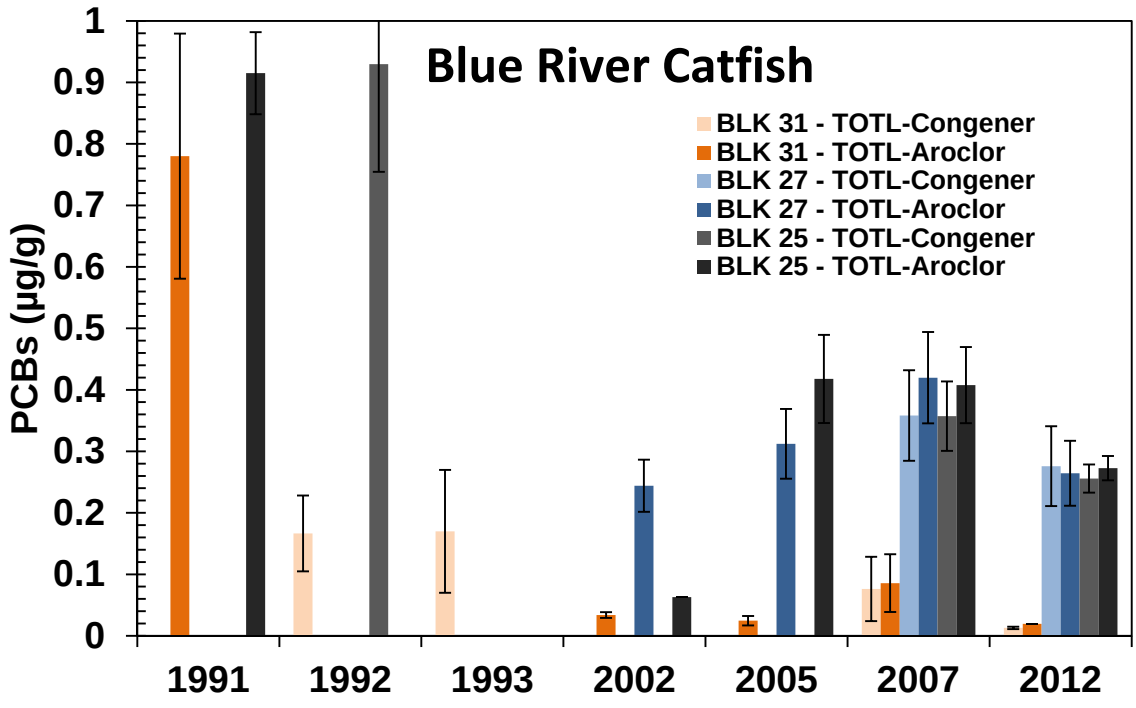

Figure 12. Total mean PCB concentrations (µg/g, wet wt) by Aroclor and congener analysis in channel catfish from the Blue River (sites BLK31, BLK27, and BLK25), 1991-2012.BLK31 results are indicated in orange color, BLK27 in blue, and BLK25 in gray/black, with the darker shade indicating the Aroclor analysis.

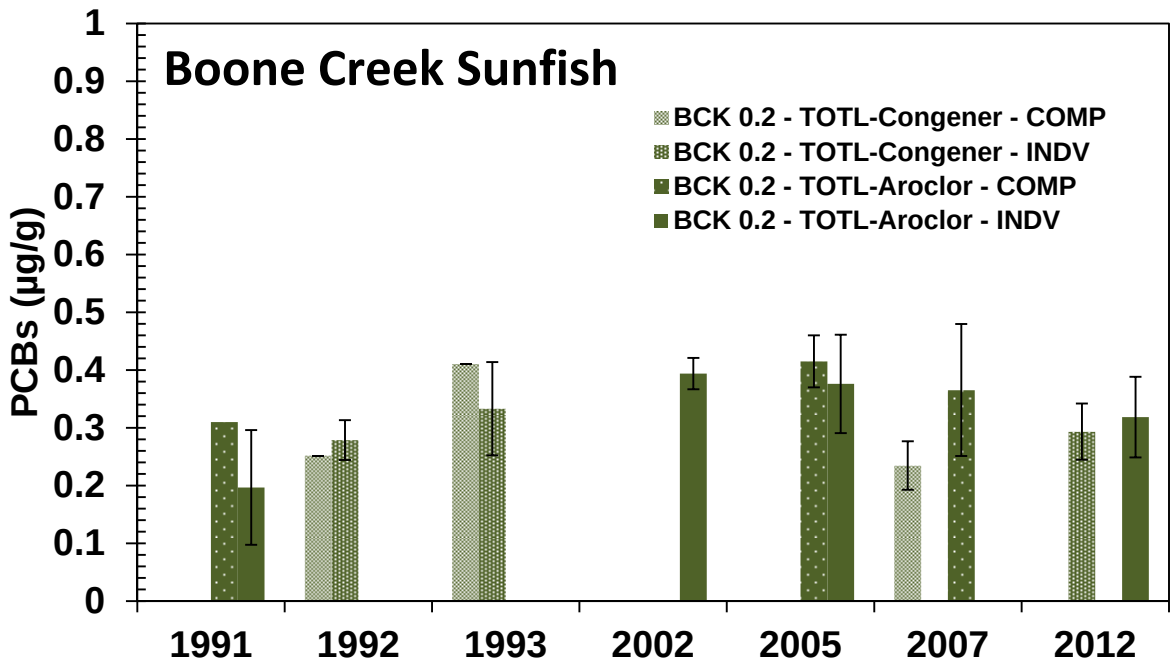

Figure 13. Total PCB concentrations (µg/g, wet wt) in green sunfish from Boone Creek (BCK0.2), 1991-2012. Results are presented, by both Aroclor and congener analysis, as mean concentrations for individual fish or composite concentrations of each individual fish. Composites represent equal fillet aliquots from each individual fish in the collection.

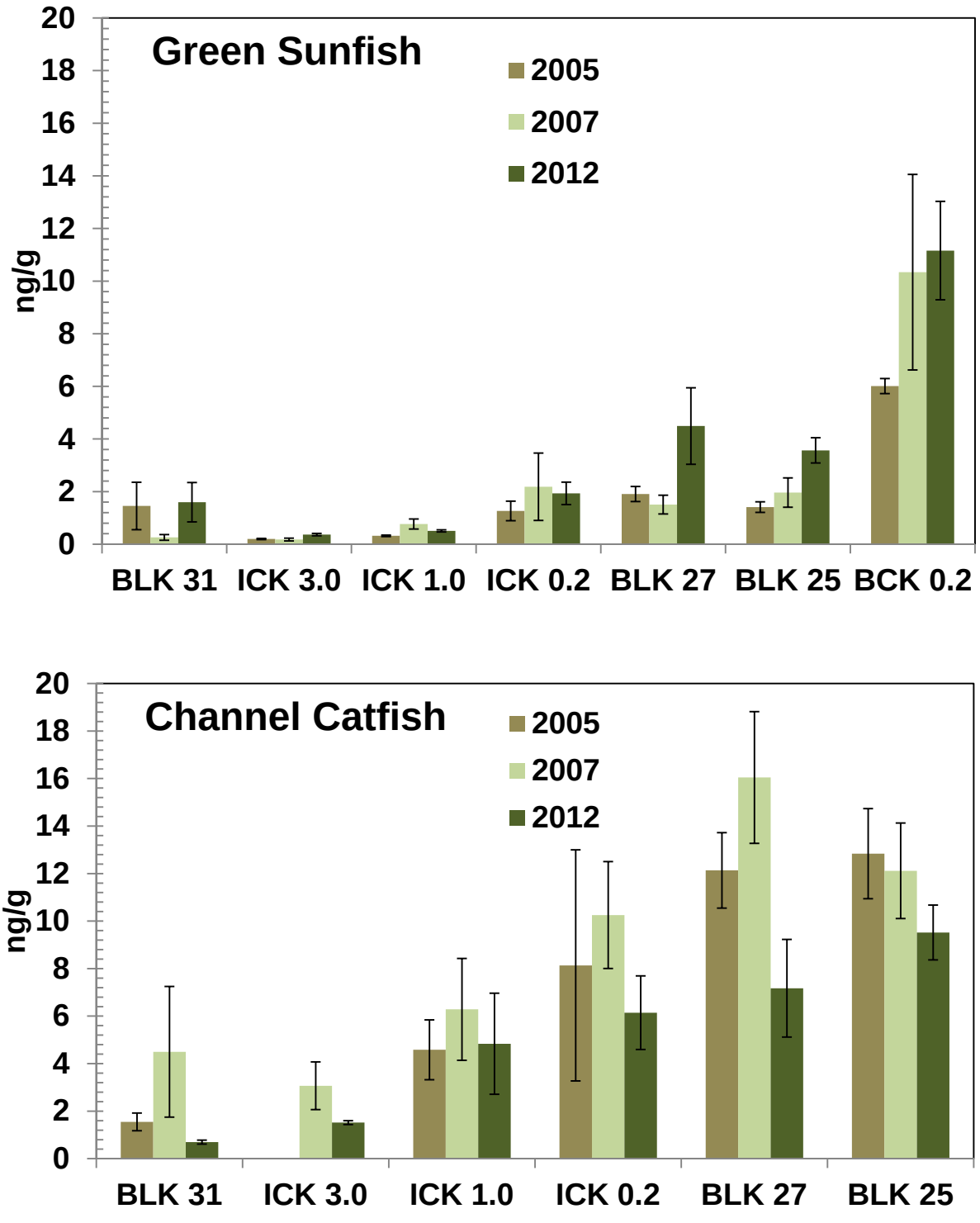

Figure 14. Mean sum of 12 dioxin-like congeners (ng/g) for sunfish and catfish at seven KCP sampling sites, 2005, 2007, and 2012.

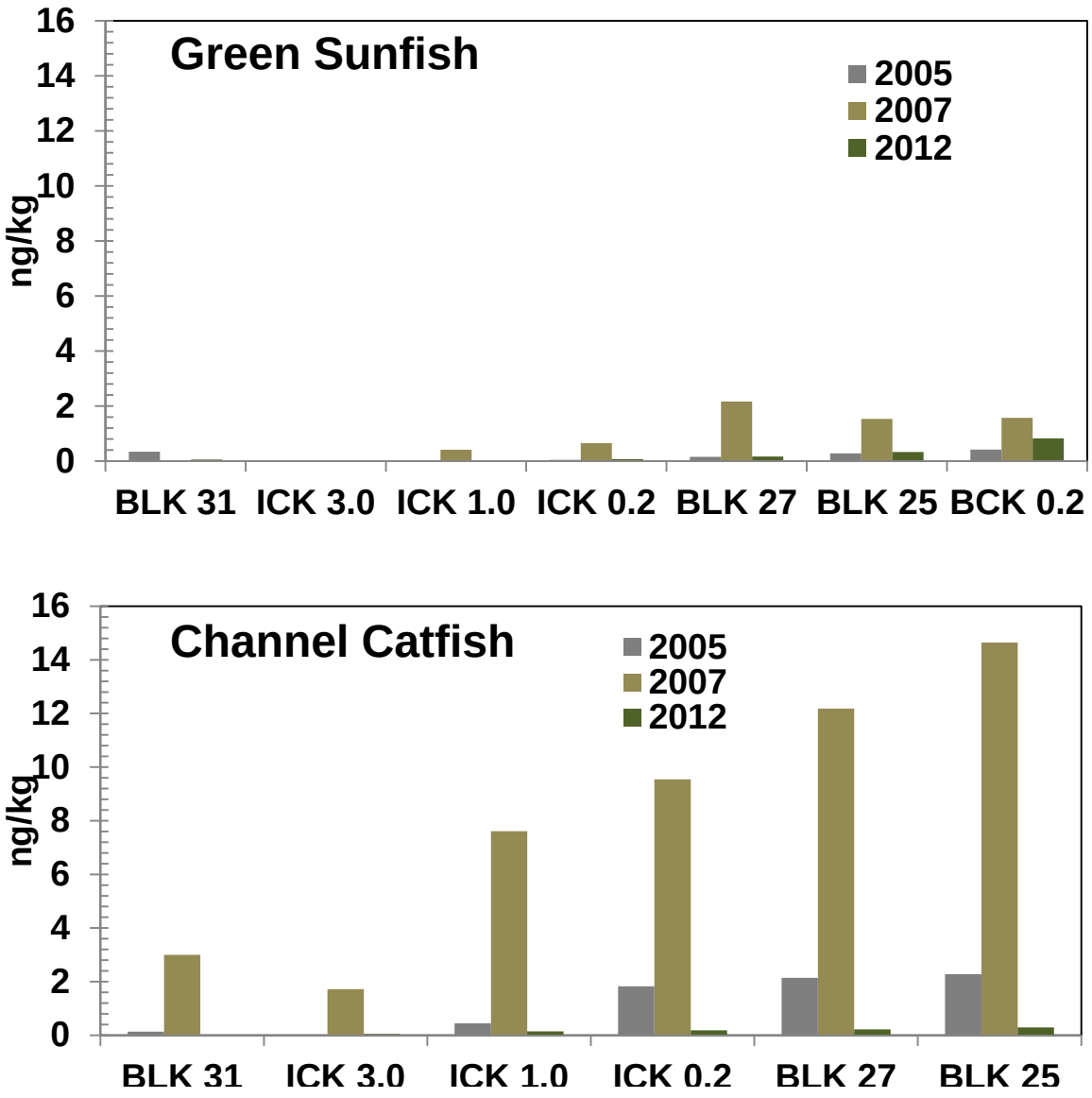

Figure 15. Mean concentrations (ng/kg) of dioxin toxic equivalents (TEQs) in green sunfish and channel catfish at seven KCP sampling sites, 2005, 2007, and 2012.

4. SUMMARY

The 2012 PCB bioaccumulation study using two separate confirmatory PCB analyses, in conjunction with the long-term monitoring results from the same sites and species, provides a valuable picture of PCB exposure and bioaccumulation near the KCP. The 2012 results clearly point to higher PCB concentrations in fish downstream of the KCP relative to fish from upstream reference locations. The pattern was consistent in both green sunfish and channel catfish, with channel catfish accumulating higher concentrations of PCBs than sunfish at the same site (consistent with their higher trophic position), as well as a different proportion of PCB congeners as shown by the PCA analysis.

The spatial pattern of bioaccumulation in the Indian Creek-Blue River area near the KCP in 2012 generally follows a pattern of higher PCBs in fish with distance downstream (reference sites < lower Indian Creek < Blue River). The 2012 PCA analysis of the shared congener concentrations across sites suggests that fish from these locations, as well as those in Boone Creek, reflect potentially different PCB sources and exposures. Like past years, there is evidence of PCB contamination at the reference sites, although in 2012 the reference fish concentrations were lower than the past and the differences between upstream and downstream locations were more pronounced. SPMD analyses provided a confirmatory measure of PCB site exposure, and were consistent with the fish results: PCB concentrations in fish were higher downstream of SPMD-confirmed PCB-contaminated storm drains. However, the extent to which PCB exposures in fish are related to current PCB releases vs historical sediment-derived sources is unknown.

An evaluation of 8 separate sampling events over the 1991-2012 time period provides some evidence of decreasing PCB concentrations in Indian Creek sunfish and Blue River channel catfish. PCB concentrations from other site-species combinations, including Indian Creek channel catfish, Blue River green sunfish, and Boone Creek green sunfish, appear to have not changed appreciably in over 20 years. Care should be taken to not over interpret small changes in PCB levels, given the relatively low levels detected, the inherent variability of fish PCB analyses and the changes in methods over the years, especially in the early 1990s. Additionally, PCB concentrations in fish from small streams can exhibit substantial short-term changes, perhaps as a result of significant flow events, often increasing or decreasing more than 50% between semiannual sampling periods (Southworth et al 1997). Because of the scientific rigor of more recent collections (Aroclor and congener analysis, greater numbers of fish, etc.) there is greater confidence and less variability in the more recent results. Over the 2002 to 2012 time period near the KCP, there is not strong evidence of major changes in PCB concentrations for any site or species.

PCBs are bioaccumulative and persistent compounds in the aquatic environment, and elevated levels in fish can be expected for many years. The widespread occurrence of PCBs in the environment is due to its use in hundreds of commercial and industrial processes including electrical insulation, pigments for plastics, and plasticizers in paints. Over 1.5 billion pounds of PCBs were produced in the US prior to the ban on the manufacture and distribution of PCBs in the late 1970s. PCBs are second only to mercury in the number of lake acres (approximately 6 million) and river miles (approximately 130,000) in the US currently under a fish consumption advisory (EPA 2010). In general, PCB concentrations in Indian Creek and Blue River fish average around 0.1 to 0.3 µg/g, which is similar to many national urban sites (EPA 1992, USGS 2003).

The magnitude of the risks to people who eat fish is highly dependent on a number of factors, including the species of fish, fish size, type of consumer (e.g., children, pregnant women), and the total consumption of fish per month/year. Although based on the EPA-defined PCB reference dose (2 X 10-5 mg/kg-d) and cancer slope factor (2 per mg/kg-d), some limits to eating fish would be recommended for almost all game fish in US lakes and rivers, there is also recognition by numerous regulatory agencies

that there are considerable health benefits from eating fish that are not fully considered in conventional risk analyses. Therefore, States have dealt with the potential PCB risks associated with fish in very different ways. Some states have used EPA guidance as a basis for issuing detailed consumption limits for specific sites, even when PCB levels are very low. Other states have adopted statewide approaches that attempt to educate the public on overall ways to reduce risks (e.g., cutting off fatty tissue, grilling fish), and limit site-specific advisories to the most highly contaminated sites. The current guidance for Indian Creek and Blue River fish is to limit consumption of common carp and channel catfish (all sizes) to one meal per month (MDHSS 2013). In addition, at the KCP warning signs are posted for the four regulated outfalls and on Indian Creek near outfall 002.

Most fish advisory guidance provided by states nationally is based on calculations of Aroclor-derived total PCB concentrations in fish. Conventional risk analysis for PCBs uses the same assumption of carcinogenic risk (Slope Factor) for all PCBs, irrespective of what specific congeners comprise the mixture. Thus, 1 ppm of Aroclor 1242 in fish is assumed to pose the same carcinogenic risk as 1 ppm of Aroclor 1254, or 1 ppm of total PCBs (sum of all congeners or Aroclor mixtures). However, the fraction of any commercial PCB mixture made up of dioxin-like PCB varies widely among the various Aroclor mixtures, with only 1.5% of Aroclor-1242 consisting of dioxin-like congeners. The congener data provided in this report suggests that human health risks for fish near the KCP may be lower than predicted from the total PCB analysis. The percent of the total PCBs in 2012 fish that are highly toxic at the KCP is quite low at approximately 5% (range 2.5 to 9.1%), with an even smaller percentage of dioxin-like toxic equivalencies (TEQs). The 2012 congener data suggests that most of the PCB load in the KCP environment is not comprised of congeners recognized as being highly toxic, consistent with the lower-chlorinated, less-toxic PCBs historically used at the KCP.

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APPENDIX A
SUMMARY STATISTICS

Table A-1. Summary statistics for green sunfish at BCK0.2

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		10.0	12.3	8 / 8	11.0
Weight, total		g		22.0	43.3	8 / 8	30.9
Weight, fillet		g		6.6	14.5	8 / 8	9.8
Lipid		%		0.5	2.0	8 / 8	1.2
PCB-001		ng/kg		2820.0	8770.0	8 / 8	5225.0
PCB-002		ng/kg		39.5	135.0	8 / 8	78.3
PCB-003		ng/kg		218.0	607.0	8 / 8	401.4
PCB-004		ng/kg		6380.0	23400.0	8 / 8	13777.5
PCB-005		ng/kg	1.4 / 2.8	11.2	35.2	4 / 8	26.8
PCB-006		ng/kg		631.0	1770.0	8 / 8	1098.3
PCB-007		ng/kg		54.8	163.0	8 / 8	107.4
PCB-008		ng/kg		2300.0	6580.0	8 / 8	4148.8
PCB-009		ng/kg		118.0	390.0	8 / 8	233.9
PCB-010		ng/kg		493.0	1650.0	8 / 8	1004.8
PCB-011		ng/kg		142.0	232.0	8 / 8	190.9
PCB-012		ng/kg		65.5	316.0	8 / 8	154.9
PCB-013	CE	ng/kg	27.2 / 54.3	ND	ND	0 / 8	ND
PCB-014		ng/kg	8.9 / 17.8	ND	ND	0 / 8	ND
PCB-015		ng/kg		542.0	3290.0	8 / 8	1672.4
PCB-016		ng/kg		407.0	1000.0	8 / 8	683.9
PCB-017		ng/kg		1620.0	4120.0	8 / 8	2855.0
PCB-018		ng/kg		1330.0	4390.0	8 / 8	2842.5
PCB-019		ng/kg		1700.0	5250.0	8 / 8	3398.8
PCB-020		ng/kg		6040.0	23600.0	8 / 8	15855.0
PCB-021		ng/kg		619.0	1180.0	8 / 8	904.1
PCB-022		ng/kg		1910.0	5770.0	8 / 8	3881.3
PCB-023		ng/kg	6.5 / 13.0	ND	ND	0 / 8	ND
PCB-024		ng/kg		39.6	184.0	8 / 8	93.5
PCB-025		ng/kg		625.0	1910.0	8 / 8	1262.5
PCB-026		ng/kg		1070.0	3580.0	8 / 8	2325.0
PCB-027		ng/kg		804.0	1910.0	8 / 8	1296.0
PCB-028	CE	ng/kg	69.6 / 139.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	10.0 / 20.0	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-031		ng/kg		3310.0	10800.0	8 / 8	7407.5
PCB-032		ng/kg		2980.0	8700.0	8 / 8	5792.5
PCB-033	CE	ng/kg	77.0 / 154.0	ND	ND	0 / 8	ND
PCB-034		ng/kg		42.2	118.0	8 / 8	77.7
PCB-035		ng/kg	8.4 / 16.8	23.8	23.8	1 / 8	23.8
PCB-036		ng/kg	7.4 / 14.9	ND	ND	0 / 8	ND
PCB-037		ng/kg		584.0	2220.0	8 / 8	1347.8
PCB-038		ng/kg	7.2 / 7.2	8.1	52.2	7 / 8	27.9
PCB-039		ng/kg		21.9	65.8	8 / 8	42.2
PCB-040		ng/kg		2270.0	6830.0	8 / 8	4418.8
PCB-041	CE	ng/kg	101.0 / 203.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		1240.0	5130.0	8 / 8	2942.5
PCB-043		ng/kg		166.0	516.0	8 / 8	325.4
PCB-044		ng/kg		7770.0	22100.0	8 / 8	13737.5
PCB-045		ng/kg		1100.0	2670.0	8 / 8	1855.0
PCB-046		ng/kg		152.0	356.0	8 / 8	245.1
PCB-047	CE	ng/kg	36.1 / 72.2	ND	ND	0 / 8	ND
PCB-048		ng/kg		561.0	1560.0	8 / 8	1047.5

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-049		ng/kg		4200.0	22700.0	8 / 8	11591.3
PCB-050		ng/kg		911.0	2370.0	8 / 8	1465.5
PCB-051	CE	ng/kg	67.6 / 135.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		5640.0	26700.0	8 / 8	15032.5
PCB-053	CE	ng/kg	67.6 / 135.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	67.6 / 67.6	57.3	132.0	7 / 8	83.9
PCB-055		ng/kg	13.0 / 14.3	124.0	345.0	5 / 8	217.4
PCB-056		ng/kg		2420.0	131000.0	8 / 8	44903.8
PCB-057		ng/kg		20.0	135.0	8 / 8	68.9
PCB-058		ng/kg	11.2 / 14.9	12.6	70.0	6 / 8	35.6
PCB-059		ng/kg		696.0	2620.0	8 / 8	1477.0
PCB-060		ng/kg		975.0	8710.0	8 / 8	4219.4
PCB-061		ng/kg		5090.0	34700.0	8 / 8	17081.3
PCB-062	CE	ng/kg	101.0 / 203.0	ND	ND	0 / 8	ND
PCB-063		ng/kg		180.0	1470.0	8 / 8	716.9
PCB-064		ng/kg		2460.0	14800.0	8 / 8	6818.8
PCB-065	CE	ng/kg	36.1 / 72.2	ND	ND	0 / 8	ND
PCB-066		ng/kg		3470.0	31000.0	8 / 8	14200.0
PCB-067		ng/kg		141.0	842.0	8 / 8	410.4
PCB-068		ng/kg	50.0 / 67.6	59.4	144.0	6 / 8	95.8
PCB-069	CE	ng/kg	19.1 / 38.1	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	57.7 / 115.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	101.0 / 203.0	ND	ND	0 / 8	ND
PCB-072		ng/kg		41.9	221.0	8 / 8	113.2
PCB-073	CE	ng/kg	16.5 / 33.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	57.7 / 115.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	101.0 / 203.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	57.7 / 115.0	ND	ND	0 / 8	ND
PCB-077		ng/kg		293.0	1750.0	8 / 8	874.0
PCB-078		ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-079		ng/kg	14.0 / 14.0	26.5	139.0	7 / 8	64.4
PCB-080		ng/kg	8.4 / 16.8	ND	ND	0 / 8	ND
PCB-081		ng/kg	50.0 / 67.6	48.8	130.0	5 / 8	85.4
PCB-082		ng/kg		240.0	889.0	8 / 8	518.0
PCB-083		ng/kg		85.7	291.0	8 / 8	175.1
PCB-084		ng/kg		414.0	1040.0	8 / 8	695.6
PCB-085		ng/kg		654.0	3560.0	8 / 8	1784.3
PCB-086		ng/kg		1840.0	7850.0	8 / 8	4133.8
PCB-087	CE	ng/kg	203.0 / 405.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		523.0	1340.0	8 / 8	850.8
PCB-089		ng/kg	50.0 / 67.6	36.4	72.1	5 / 8	56.2
PCB-090		ng/kg		3930.0	11600.0	8 / 8	6583.8
PCB-091	CE	ng/kg	19.3 / 38.6	ND	ND	0 / 8	ND
PCB-092		ng/kg		725.0	1940.0	8 / 8	1175.1
PCB-093		ng/kg		184.0	878.0	8 / 8	393.4
PCB-094		ng/kg	13.8 / 18.6	22.6	39.5	6 / 8	30.7
PCB-095		ng/kg		1960.0	5100.0	8 / 8	3362.5
PCB-096		ng/kg	10.6 / 10.6	21.6	52.3	7 / 8	33.2
PCB-097	CE	ng/kg	203.0 / 405.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	35.3 / 70.5	ND	ND	0 / 8	ND
PCB-099		ng/kg		1860.0	7280.0	8 / 8	3955.0
PCB-100	CE	ng/kg	35.3 / 70.5	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	33.4 / 66.8	ND	ND	0 / 8	ND

			Detection Limit	Minimum Detected	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-102	CE	ng/kg	35.3 / 70.5	ND	ND	0 / 8	ND
PCB-103		ng/kg		34.9	160.0	8 / 8	73.3
PCB-104		ng/kg	7.2 / 14.3	21.3	21.3	1 / 8	21.3
PCB-105		ng/kg		866.0	5470.0	8 / 8	2813.3
PCB-106		ng/kg	13.5 / 27.0	21.0	21.0	1 / 8	21.0
PCB-107		ng/kg	100.0 / 100.0	136.0	362.0	7 / 8	219.7
PCB-108	CE	ng/kg	203.0 / 405.0	ND	ND	0 / 8	ND
PCB-109		ng/kg		184.0	833.0	8 / 8	452.5
PCB-110		ng/kg		3040.0	10400.0	8 / 8	5661.3
PCB-111		ng/kg	9.7 / 19.5	ND	ND	0 / 8	ND
PCB-112		ng/kg	16.8 / 33.5	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	33.4 / 66.8	ND	ND	0 / 8	ND
PCB-114		ng/kg		77.9	503.0	8 / 8	238.7
PCB-115	CE	ng/kg	33.0 / 65.9	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	24.1 / 48.1	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	24.1 / 48.1	ND	ND	0 / 8	ND
PCB-118		ng/kg		2340.0	11500.0	8 / 8	6242.5
PCB-119	CE	ng/kg	203.0 / 405.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-121		ng/kg	7.7 / 15.4	24.3	24.3	1 / 8	24.3
PCB-122		ng/kg		38.2	223.0	8 / 8	104.4
PCB-123		ng/kg		80.5	357.0	8 / 8	190.2
PCB-124	CE	ng/kg	67.6 / 135.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	203.0 / 405.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	10.4 / 20.8	16.3	18.0	2 / 8	17.2
PCB-127		ng/kg	9.9 / 19.7	ND	ND	0 / 8	ND
PCB-128		ng/kg		353.0	857.0	8 / 8	609.6
PCB-129		ng/kg		4560.0	8500.0	8 / 8	6007.5
PCB-130		ng/kg		207.0	370.0	8 / 8	272.3
PCB-131		ng/kg	13.5 / 19.7	21.7	34.6	4 / 8	26.6
PCB-132		ng/kg		449.0	1010.0	8 / 8	692.3
PCB-133		ng/kg		51.6	95.8	8 / 8	73.6
PCB-134		ng/kg	135.0 / 135.0	120.0	224.0	7 / 8	158.1
PCB-135		ng/kg		855.0	2010.0	8 / 8	1368.9
PCB-136		ng/kg		108.0	314.0	8 / 8	203.5
PCB-137		ng/kg		131.0	337.0	8 / 8	220.5
PCB-138	CE	ng/kg	41.5 / 83.0	ND	ND	0 / 8	ND
PCB-139		ng/kg		54.5	104.0	8 / 8	74.2
PCB-140	CE	ng/kg	25.3 / 50.5	ND	ND	0 / 8	ND
PCB-141		ng/kg		570.0	1310.0	8 / 8	855.1
PCB-142		ng/kg	9.2 / 18.4	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	67.6 / 135.0	ND	ND	0 / 8	ND
PCB-144		ng/kg		114.0	238.0	8 / 8	169.3
PCB-145		ng/kg	8.4 / 16.8	ND	ND	0 / 8	ND
PCB-146		ng/kg		643.0	1310.0	8 / 8	920.9
PCB-147		ng/kg		2080.0	5370.0	8 / 8	3428.8
PCB-148		ng/kg	10.7 / 21.4	30.7	30.7	1 / 8	30.7
PCB-149	CE	ng/kg	58.8 / 118.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	8.0 / 15.9	13.4	13.4	1 / 8	13.4
PCB-151	CE	ng/kg	35.5 / 71.1	ND	ND	0 / 8	ND
PCB-152		ng/kg	7.4 / 14.9	ND	ND	0 / 8	ND
PCB-153		ng/kg		3010.0	6270.0	8 / 8	4531.3
PCB-154		ng/kg	13.3 / 13.3	30.8	156.0	7 / 8	55.6

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-155		ng/kg	8.0 / 15.9	14.1	14.1	1 / 8	14.1
PCB-156		ng/kg		338.0	707.0	8 / 8	516.3
PCB-157	CE	ng/kg	67.6 / 135.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		363.0	706.0	8 / 8	484.0
PCB-159		ng/kg	8.5 / 17.0	ND	ND	0 / 8	ND
PCB-160		ng/kg	15.7 / 31.4	ND	ND	0 / 8	ND
PCB-161		ng/kg	7.2 / 14.3	ND	ND	0 / 8	ND
PCB-162		ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	41.5 / 83.0	ND	ND	0 / 8	ND
PCB-164		ng/kg		204.0	453.0	8 / 8	294.6
PCB-165		ng/kg	14.3 / 28.6	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	24.5 / 49.1	ND	ND	0 / 8	ND
PCB-167		ng/kg		160.0	314.0	8 / 8	212.3
PCB-168	CE	ng/kg	37.3 / 74.6	ND	ND	0 / 8	ND
PCB-169		ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-170		ng/kg		409.0	1280.0	8 / 8	912.9
PCB-171		ng/kg		132.0	380.0	8 / 8	252.4
PCB-172		ng/kg		103.0	263.0	8 / 8	180.5
PCB-173	CE	ng/kg	21.9 / 43.8	ND	ND	0 / 8	ND
PCB-174		ng/kg		279.0	1070.0	8 / 8	615.6
PCB-175		ng/kg	9.2 / 13.6	32.1	52.7	6 / 8	41.8
PCB-176		ng/kg	33.8 / 67.6	61.9	78.4	2 / 8	70.2
PCB-177		ng/kg		247.0	731.0	8 / 8	483.6
PCB-178		ng/kg		106.0	356.0	8 / 8	202.5
PCB-179		ng/kg		87.2	350.0	8 / 8	172.3
PCB-180		ng/kg		1150.0	3980.0	8 / 8	2478.8
PCB-181		ng/kg	13.1 / 26.2	ND	ND	0 / 8	ND
PCB-182		ng/kg	23.9 / 47.8	ND	ND	0 / 8	ND
PCB-183		ng/kg		351.0	1100.0	8 / 8	644.4
PCB-184		ng/kg	8.0 / 15.9	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	25.9 / 51.9	ND	ND	0 / 8	ND
PCB-186		ng/kg	33.8 / 67.6	ND	ND	0 / 8	ND
PCB-187		ng/kg		1370.0	3930.0	8 / 8	2527.5
PCB-188		ng/kg	5.1 / 10.3	10.3	10.3	1 / 8	10.3
PCB-189		ng/kg	33.8 / 67.6	55.0	57.2	2 / 8	56.1
PCB-190		ng/kg		45.1	230.0	8 / 8	116.7
PCB-191		ng/kg		22.2	63.1	8 / 8	42.0
PCB-192		ng/kg	11.6 / 23.2	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	32.6 / 65.1	ND	ND	0 / 8	ND
PCB-194		ng/kg		177.0	457.0	8 / 8	345.5
PCB-195		ng/kg		66.6	195.0	8 / 8	146.0
PCB-196		ng/kg		66.9	247.0	8 / 8	168.0
PCB-197		ng/kg	22.1 / 44.2	34.3	54.0	3 / 8	42.9
PCB-198		ng/kg		248.0	688.0	8 / 8	481.1
PCB-199	CE	ng/kg	21.8 / 43.6	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	22.1 / 44.2	ND	ND	0 / 8	ND
PCB-201		ng/kg	50.7 / 101.0	ND	ND	0 / 8	ND
PCB-202		ng/kg		44.8	111.0	8 / 8	70.8
PCB-203		ng/kg		134.0	375.0	8 / 8	281.3
PCB-204		ng/kg	50.7 / 101.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	18.3 / 18.3	17.8	41.9	6 / 8	30.2
PCB-206		ng/kg	13.6 / 20.6	97.2	200.0	6 / 8	142.7
PCB-207		ng/kg	50.7 / 101.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-208		ng/kg		22.8	34.6	8 / 8	26.6
PCB-209		ng/kg	69.4 / 101.0	51.6	51.6	1 / 8	51.6
Monochloro BP		ng/kg		3210.0	9320.0	8 / 8	5702.5
Dichloro BP		ng/kg		11000.0	35500.0	8 / 8	22387.5
Trichloro BP		ng/kg		24000.0	72600.0	8 / 8	50075.0
Tetrachloro BP		ng/kg		57800.0	317000.0	8 / 8	143900.0
Pentachloro BP		ng/kg		20300.0	70400.0	8 / 8	39700.0
Hexachloro BP		ng/kg		15200.0	30100.0	8 / 8	21137.5
Heptachloro BP		ng/kg		4300.0	13300.0	8 / 8	8676.3
Octachloro BP		ng/kg		737.0	2100.0	8 / 8	1533.4
Nonachloro BP		ng/kg		23.1	234.0	8 / 8	133.5
Decachloro BP		ng/kg		0.0	51.6	8 / 8	6.5
Total BPs		ng/kg		162000.0	522000.0	8 / 8	293375.0
PCB-1016		ug/kg	78.7 / 677.0	ND	ND	0 / 8	ND
PCB-1221		ug/kg	78.7 / 677.0	ND	ND	0 / 8	ND
PCB-1232		ug/kg	78.7 / 677.0	ND	ND	0 / 8	ND
PCB-1242		ug/kg	164.0 / 677.0	89.6	369.0	6 / 8	224.4
PCB-1248		ug/kg	78.7 / 677.0	ND	ND	0 / 8	ND
PCB-1254		ug/kg	83.0 / 677.0	99.0	172.0	4 / 8	141.0
PCB-1260		ug/kg	78.7 / 677.0	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	164.0 / 677.0	89.6	519.0	6 / 8	318.3

Table A-2. Summary statistics for channel catfish at BLK25

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		30.9	53.0	8 / 8	40.2
Weight, total		g		268.4	1229.3	8 / 8	689.2
Weight, fillet		g		77.4	334.0	8 / 8	189.6
Lipid		%		1.6	4.6	8 / 8	2.7
PCB-001		ng/kg		201.0	3610.0	8 / 8	1778.5
PCB-002		ng/kg	43.7 / 49.5	ND	ND	0 / 8	ND
PCB-003		ng/kg		55.2	318.0	8 / 8	151.0
PCB-004		ng/kg		1720.0	29000.0	8 / 8	16397.5
PCB-005		ng/kg	5.0 / 5.1	28.4	109.0	6 / 8	59.0
PCB-006		ng/kg		66.2	3650.0	8 / 8	2015.9
PCB-007		ng/kg	54.7 / 54.7	142.0	409.0	7 / 8	255.9
PCB-008		ng/kg		671.0	14700.0	8 / 8	8280.1
PCB-009		ng/kg		54.6	575.0	8 / 8	324.1
PCB-010		ng/kg	59.0 / 59.0	291.0	987.0	7 / 8	613.0
PCB-011		ng/kg	360.0 / 408.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	90.5 / 98.5	96.2	173.0	3 / 8	135.7
PCB-013	CE	ng/kg	90.5 / 103.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	29.7 / 33.7	ND	ND	0 / 8	ND
PCB-015		ng/kg		96.7	427.0	8 / 8	199.3
PCB-016		ng/kg		69.6	3110.0	8 / 8	1666.0
PCB-017		ng/kg		786.0	14800.0	8 / 8	9100.8
PCB-018		ng/kg		765.0	8700.0	8 / 8	5383.1
PCB-019		ng/kg		718.0	6330.0	8 / 8	3976.0
PCB-020		ng/kg		12300.0	23400.0	8 / 8	18587.5
PCB-021		ng/kg	269.0 / 279.0	450.0	2510.0	6 / 8	1370.0
PCB-022		ng/kg		1310.0	5400.0	8 / 8	3405.0
PCB-023		ng/kg	21.6 / 24.5	23.6	23.6	1 / 8	23.6
PCB-024		ng/kg		31.7	236.0	8 / 8	158.1
PCB-025		ng/kg		518.0	1490.0	8 / 8	954.3
PCB-026		ng/kg		596.0	2980.0	8 / 8	1858.3
PCB-027		ng/kg		72.8	2860.0	8 / 8	1770.2
PCB-028	CE	ng/kg	232.0 / 263.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	33.3 / 37.8	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		3430.0	7770.0	8 / 8	5510.0
PCB-032		ng/kg		384.0	9670.0	8 / 8	6419.3
PCB-033	CE	ng/kg	257.0 / 291.0	ND	ND	0 / 8	ND
PCB-034		ng/kg		95.2	191.0	8 / 8	141.0
PCB-035		ng/kg	27.9 / 31.6	ND	ND	0 / 8	ND
PCB-036		ng/kg	24.8 / 28.1	ND	ND	0 / 8	ND
PCB-037		ng/kg	87.8 / 99.5	ND	ND	0 / 8	ND
PCB-038		ng/kg	16.4 / 18.4	18.5	22.7	2 / 8	20.6
PCB-039		ng/kg	31.6 / 32.5	38.9	60.8	6 / 8	50.3
PCB-040		ng/kg	354.0 / 354.0	881.0	5460.0	7 / 8	3520.1
PCB-041	CE	ng/kg	338.0 / 383.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		2200.0	5730.0	8 / 8	3496.3

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-043		ng/kg		304.0	697.0	8 / 8	424.1
PCB-044		ng/kg		7820.0	22200.0	8 / 8	13890.0
PCB-045		ng/kg		428.0	2700.0	8 / 8	1611.1
PCB-046		ng/kg	118.0 / 121.0	321.0	578.0	6 / 8	397.7
PCB-047	CE	ng/kg	120.0 / 136.0	ND	ND	0 / 8	ND
PCB-048		ng/kg		319.0	2050.0	8 / 8	1340.3
PCB-049		ng/kg		6750.0	14700.0	8 / 8	9811.3
PCB-050		ng/kg	236.0 / 243.0	467.0	1610.0	6 / 8	943.8
PCB-051	CE	ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		5760.0	11100.0	8 / 8	8582.5
PCB-053	CE	ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-055		ng/kg	31.5 / 35.7	51.2	117.0	3 / 8	82.4
PCB-056		ng/kg		162.0	2560.0	8 / 8	1395.4
PCB-057		ng/kg	23.9 / 27.0	30.5	30.5	1 / 8	30.5
PCB-058		ng/kg	25.9 / 25.9	28.3	73.1	7 / 8	43.6
PCB-059		ng/kg		515.0	1960.0	8 / 8	1245.9
PCB-060		ng/kg		1480.0	4790.0	8 / 8	2787.5
PCB-061		ng/kg		5940.0	16200.0	8 / 8	9897.5
PCB-062	CE	ng/kg	338.0 / 383.0	ND	ND	0 / 8	ND
PCB-063		ng/kg		378.0	1130.0	8 / 8	629.5
PCB-064		ng/kg		2720.0	13700.0	8 / 8	7256.3
PCB-065	CE	ng/kg	120.0 / 136.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		6510.0	20900.0	8 / 8	11960.0
PCB-067		ng/kg		76.8	162.0	8 / 8	101.4
PCB-068		ng/kg	113.0 / 128.0	150.0	176.0	2 / 8	163.0
PCB-069	CE	ng/kg	63.5 / 71.9	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	192.0 / 218.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	338.0 / 383.0	ND	ND	0 / 8	ND
PCB-072		ng/kg		40.1	93.2	8 / 8	62.8
PCB-073	CE	ng/kg	55.0 / 62.2	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	192.0 / 218.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	338.0 / 383.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	192.0 / 218.0	ND	ND	0 / 8	ND
PCB-077		ng/kg		40.1	89.2	8 / 8	58.0
PCB-078		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	31.8 / 34.0	33.5	45.4	4 / 8	40.2
PCB-080		ng/kg	27.9 / 31.6	ND	ND	0 / 8	ND
PCB-081		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	34.4 / 34.4	35.6	484.0	7 / 8	294.8
PCB-083		ng/kg	82.1 / 82.1	93.7	444.0	7 / 8	217.7
PCB-084		ng/kg		84.2	749.0	8 / 8	468.4
PCB-085		ng/kg		1220.0	3330.0	8 / 8	1778.8
PCB-086		ng/kg		882.0	5380.0	8 / 8	2697.8
PCB-087	CE	ng/kg	676.0 / 765.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		694.0	2220.0	8 / 8	1171.1
PCB-089		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		2980.0	6840.0	8 / 8	4567.5
PCB-091	CE	ng/kg	64.4 / 73.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-092		ng/kg		903.0	2450.0	8 / 8	1418.9
PCB-093		ng/kg		204.0	804.0	8 / 8	453.1
PCB-094		ng/kg		48.8	99.4	8 / 8	67.8
PCB-095		ng/kg		431.0	2600.0	8 / 8	1585.9
PCB-096		ng/kg	23.9 / 27.0	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	676.0 / 765.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	118.0 / 133.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		3260.0	8850.0	8 / 8	4835.0
PCB-100	CE	ng/kg	118.0 / 133.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	111.0 / 126.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	118.0 / 133.0	ND	ND	0 / 8	ND
PCB-103		ng/kg		41.7	135.0	8 / 8	75.5
PCB-104		ng/kg	23.9 / 27.0	ND	ND	0 / 8	ND
PCB-105		ng/kg		1570.0	3910.0	8 / 8	2396.3
PCB-106		ng/kg	45.0 / 51.0	ND	ND	0 / 8	ND
PCB-107		ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	676.0 / 765.0	ND	ND	0 / 8	ND
PCB-109		ng/kg		89.1	821.0	8 / 8	433.5
PCB-110		ng/kg		745.0	12300.0	8 / 8	5663.1
PCB-111		ng/kg	32.4 / 36.7	ND	ND	0 / 8	ND
PCB-112		ng/kg	55.9 / 63.3	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	111.0 / 126.0	ND	ND	0 / 8	ND
PCB-114		ng/kg		122.0	318.0	8 / 8	182.6
PCB-115	CE	ng/kg	110.0 / 124.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	80.2 / 90.8	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	80.2 / 90.8	ND	ND	0 / 8	ND
PCB-118		ng/kg		3910.0	10100.0	8 / 8	5996.3
PCB-119	CE	ng/kg	676.0 / 765.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	25.7 / 29.1	ND	ND	0 / 8	ND
PCB-122		ng/kg	35.1 / 39.8	49.4	85.9	3 / 8	64.0
PCB-123		ng/kg		81.3	275.0	8 / 8	144.3
PCB-124	CE	ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	676.0 / 765.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	34.7 / 39.3	ND	ND	0 / 8	ND
PCB-127		ng/kg	32.9 / 37.2	ND	ND	0 / 8	ND
PCB-128		ng/kg		336.0	840.0	8 / 8	548.3
PCB-129		ng/kg		3490.0	14000.0	8 / 8	7691.3
PCB-130		ng/kg	33.5 / 33.5	142.0	426.0	7 / 8	223.6

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-131		ng/kg	32.9 / 37.2	35.3	39.3	2 / 8	37.3
PCB-132		ng/kg	60.8 / 60.8	86.5	1130.0	7 / 8	576.1
PCB-133		ng/kg		90.3	268.0	8 / 8	143.4
PCB-134		ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-135		ng/kg		1070.0	3870.0	8 / 8	2377.5
PCB-136		ng/kg	35.0 / 35.0	39.3	112.0	7 / 8	75.9
PCB-137		ng/kg		140.0	298.0	8 / 8	198.3
PCB-138	CE	ng/kg	138.0 / 157.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	84.2 / 95.4	131.0	142.0	2 / 8	136.5
PCB-140	CE	ng/kg	84.2 / 95.4	ND	ND	0 / 8	ND
PCB-141		ng/kg		653.0	1600.0	8 / 8	964.5
PCB-142		ng/kg	30.6 / 34.7	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	63.2 / 65.0	66.3	166.0	6 / 8	99.2
PCB-145		ng/kg	27.9 / 31.6	ND	ND	0 / 8	ND
PCB-146		ng/kg		1350.0	3870.0	8 / 8	2216.3
PCB-147		ng/kg		1830.0	9810.0	8 / 8	4835.0
PCB-148		ng/kg	35.6 / 40.3	66.8	68.5	2 / 8	67.7
PCB-149	CE	ng/kg	196.0 / 222.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	26.6 / 30.1	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	118.0 / 134.0	ND	ND	0 / 8	ND
PCB-152		ng/kg	24.8 / 28.1	ND	ND	0 / 8	ND
PCB-153		ng/kg		4660.0	12500.0	8 / 8	7075.0
PCB-154		ng/kg		107.0	384.0	8 / 8	192.4
PCB-155		ng/kg	26.6 / 30.1	ND	ND	0 / 8	ND
PCB-156		ng/kg		336.0	799.0	8 / 8	513.3
PCB-157	CE	ng/kg	225.0 / 255.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		357.0	835.0	8 / 8	518.1
PCB-159		ng/kg	28.4 / 32.1	ND	ND	0 / 8	ND
PCB-160		ng/kg	52.3 / 59.2	ND	ND	0 / 8	ND
PCB-161		ng/kg	23.9 / 27.0	ND	ND	0 / 8	ND
PCB-162		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	138.0 / 157.0	ND	ND	0 / 8	ND
PCB-164		ng/kg		160.0	791.0	8 / 8	477.8
PCB-165		ng/kg	47.7 / 54.1	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	81.8 / 92.7	ND	ND	0 / 8	ND
PCB-167		ng/kg		153.0	378.0	8 / 8	228.5
PCB-168	CE	ng/kg	124.0 / 141.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		669.0	2320.0	8 / 8	1213.6
PCB-171		ng/kg		206.0	761.0	8 / 8	389.0
PCB-172		ng/kg		148.0	588.0	8 / 8	304.0
PCB-173	CE	ng/kg	73.0 / 82.7	ND	ND	0 / 8	ND
PCB-174		ng/kg		731.0	2390.0	8 / 8	1244.5
PCB-175		ng/kg	30.9 / 30.9	40.4	102.0	7 / 8	55.5
PCB-176		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-177		ng/kg		90.8	1410.0	8 / 8	487.0
PCB-178		ng/kg		206.0	721.0	8 / 8	405.4
PCB-179		ng/kg		118.0	269.0	8 / 8	202.0
PCB-180		ng/kg		2210.0	8810.0	8 / 8	4536.3
PCB-181		ng/kg	43.7 / 49.5	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-182		ng/kg	79.7 / 90.3	ND	ND	0 / 8	ND
PCB-183		ng/kg		525.0	1990.0	8 / 8	1066.9
PCB-184		ng/kg	26.6 / 30.1	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	86.5 / 98.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		4970.0	19600.0	8 / 8	10521.3
PCB-188		ng/kg	17.1 / 19.4	ND	ND	0 / 8	ND
PCB-189		ng/kg	113.0 / 128.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	61.4 / 64.3	71.0	270.0	6 / 8	136.3
PCB-191		ng/kg		30.9	111.0	8 / 8	55.3
PCB-192		ng/kg	38.7 / 43.9	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	109.0 / 123.0	ND	ND	0 / 8	ND
PCB-194		ng/kg		190.0	925.0	8 / 8	492.5
PCB-195		ng/kg		104.0	411.0	8 / 8	246.0
PCB-196		ng/kg		126.0	488.0	8 / 8	283.0
PCB-197		ng/kg	74.3 / 83.4	77.1	77.1	1 / 8	77.1
PCB-198		ng/kg		554.0	2160.0	8 / 8	1288.5
PCB-199	CE	ng/kg	72.7 / 82.3	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	73.6 / 83.4	ND	ND	0 / 8	ND
PCB-201		ng/kg	169.0 / 191.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	62.6 / 62.6	111.0	220.0	7 / 8	142.7
PCB-203		ng/kg		219.0	867.0	8 / 8	491.6
PCB-204		ng/kg	169.0 / 191.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	41.1 / 46.6	52.8	73.8	3 / 8	63.3
PCB-206		ng/kg		80.4	269.0	8 / 8	166.1
PCB-207		ng/kg	169.0 / 191.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	38.5 / 43.3	46.9	75.9	4 / 8	60.4
PCB-209		ng/kg	169.0 / 191.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		256.0	3930.0	8 / 8	1931.9
Dichloro BP		ng/kg		2610.0	49600.0	8 / 8	28063.8
Trichloro BP		ng/kg		29800.0	86800.0	8 / 8	60000.0
Tetrachloro BP		ng/kg		55000.0	122000.0	8 / 8	78787.5
Pentachloro BP		ng/kg		19000.0	61500.0	8 / 8	34387.5
Hexachloro BP		ng/kg		16100.0	51700.0	8 / 8	28875.0
Heptachloro BP		ng/kg		10300.0	39300.0	8 / 8	20575.0
Octachloro BP		ng/kg		1190.0	5140.0	8 / 8	2958.8
Nonachloro BP		ng/kg		80.4	345.0	8 / 8	196.1
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		144000.0	355000.0	8 / 8	256000.0
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg		104.0	236.0	8 / 8	153.4
PCB-1248		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1254		ug/kg		47.2	115.0	8 / 8	79.5
PCB-1260		ug/kg		20.1	60.8	8 / 8	39.8
Total Aroclors		ug/kg		192.0	361.0	8 / 8	272.9

Table A-3. Summary statistics for green sunfish at BLK25

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		11.8	16.5	8 / 8	13.0
Weight, total		g		30.8	89.8	8 / 8	47.4
Weight, fillet		g		11.0	31.8	8 / 8	15.5
Lipid		%		0.4	1.7	8 / 8	1.0
PCB-001		ng/kg		325.0	1580.0	8 / 8	786.8
PCB-002		ng/kg	9.8 / 19.8	12.3	26.7	3 / 8	21.5
PCB-003		ng/kg		51.9	368.0	8 / 8	167.0
PCB-004		ng/kg		1270.0	11500.0	8 / 8	5222.5
PCB-005		ng/kg	1.1 / 2.1	74.4	74.4	1 / 8	74.4
PCB-006		ng/kg		191.0	2450.0	8 / 8	1128.5
PCB-007		ng/kg		22.0	356.0	8 / 8	150.1
PCB-008		ng/kg		1140.0	14500.0	8 / 8	6436.3
PCB-009		ng/kg		35.5	564.0	8 / 8	218.7
PCB-010		ng/kg		50.5	632.0	8 / 8	239.4
PCB-011		ng/kg		107.0	234.0	8 / 8	182.0
PCB-012		ng/kg		24.6	543.0	8 / 8	178.2
PCB-013	CE	ng/kg	20.1 / 41.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	6.6 / 13.5	ND	ND	0 / 8	ND
PCB-015		ng/kg		282.0	6110.0	8 / 8	2263.4
PCB-016		ng/kg		131.0	1820.0	8 / 8	809.9
PCB-017		ng/kg		912.0	9570.0	8 / 8	4287.8
PCB-018		ng/kg		706.0	7320.0	8 / 8	3488.3
PCB-019		ng/kg		333.0	3920.0	8 / 8	1634.1
PCB-020		ng/kg		4370.0	19700.0	8 / 8	11340.0
PCB-021		ng/kg		725.0	3820.0	8 / 8	2071.9
PCB-022		ng/kg		881.0	4660.0	8 / 8	2702.6
PCB-023		ng/kg	4.9 / 9.8	10.8	25.5	3 / 8	17.9
PCB-024		ng/kg	10.6 / 11.0	17.5	156.0	6 / 8	75.3
PCB-025		ng/kg		562.0	3110.0	8 / 8	1652.8
PCB-026		ng/kg		977.0	4950.0	8 / 8	2568.4
PCB-027		ng/kg		221.0	2650.0	8 / 8	968.9
PCB-028	CE	ng/kg	51.5 / 105.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	7.4 / 15.1	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		2980.0	16100.0	8 / 8	8707.5
PCB-032		ng/kg		1180.0	9300.0	8 / 8	4015.0
PCB-033	CE	ng/kg	57.0 / 116.0	ND	ND	0 / 8	ND
PCB-034		ng/kg		32.3	177.0	8 / 8	79.0
PCB-035		ng/kg	6.2 / 12.7	ND	ND	0 / 8	ND
PCB-036		ng/kg	5.5 / 11.2	ND	ND	0 / 8	ND
PCB-037		ng/kg		213.0	1620.0	8 / 8	1115.0
PCB-038		ng/kg	3.6 / 7.4	5.2	14.2	3 / 8	11.2
PCB-039		ng/kg	12.6 / 12.6	10.2	65.0	7 / 8	35.3
PCB-040		ng/kg		1100.0	5180.0	8 / 8	2873.8
PCB-041	CE	ng/kg	75.0 / 153.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		682.0	3110.0	8 / 8	1776.5
PCB-043		ng/kg		106.0	387.0	8 / 8	223.5
PCB-044		ng/kg		3270.0	14500.0	8 / 8	7552.5
PCB-045		ng/kg		406.0	2360.0	8 / 8	1160.6

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-046		ng/kg		26.6	303.0	8 / 8	145.9
PCB-047	CE	ng/kg	26.7 / 54.5	ND	ND	0 / 8	ND
PCB-048		ng/kg		357.0	1660.0	8 / 8	914.5
PCB-049		ng/kg		2510.0	8700.0	8 / 8	5195.0
PCB-050		ng/kg		318.0	1530.0	8 / 8	784.6
PCB-051	CE	ng/kg	50.0 / 102.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		3490.0	11500.0	8 / 8	6811.3
PCB-053	CE	ng/kg	50.0 / 102.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	25.3 / 51.0	32.2	100.0	3 / 8	63.0
PCB-055		ng/kg	7.1 / 7.1	111.0	326.0	7 / 8	196.1
PCB-056		ng/kg		992.0	4130.0	8 / 8	2131.5
PCB-057		ng/kg		18.1	79.1	8 / 8	42.9
PCB-058		ng/kg	10.6 / 11.2	12.7	29.8	6 / 8	20.0
PCB-059		ng/kg		355.0	1500.0	8 / 8	781.0
PCB-060		ng/kg		662.0	2760.0	8 / 8	1372.1
PCB-061		ng/kg		4380.0	17400.0	8 / 8	9287.5
PCB-062	CE	ng/kg	75.0 / 153.0	ND	ND	0 / 8	ND
PCB-063		ng/kg		168.0	508.0	8 / 8	313.8
PCB-064		ng/kg		1550.0	5930.0	8 / 8	3338.8
PCB-065	CE	ng/kg	26.7 / 54.5	ND	ND	0 / 8	ND
PCB-066		ng/kg		2970.0	10100.0	8 / 8	5205.0
PCB-067		ng/kg		101.0	394.0	8 / 8	217.6
PCB-068		ng/kg	50.0 / 50.0	29.1	119.0	7 / 8	61.4
PCB-069	CE	ng/kg	14.1 / 28.8	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	42.7 / 87.1	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	75.0 / 153.0	ND	ND	0 / 8	ND
PCB-072		ng/kg		36.6	140.0	8 / 8	71.9
PCB-073	CE	ng/kg	12.2 / 24.9	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	42.7 / 87.1	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	75.0 / 153.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	42.7 / 87.1	ND	ND	0 / 8	ND
PCB-077		ng/kg		172.0	596.0	8 / 8	369.0
PCB-078		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-079		ng/kg		13.1	67.5	8 / 8	29.1
PCB-080		ng/kg	6.2 / 12.7	ND	ND	0 / 8	ND
PCB-081		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-082		ng/kg		94.2	439.0	8 / 8	229.8
PCB-083		ng/kg	17.6 / 17.6	53.6	158.0	7 / 8	91.5
PCB-084		ng/kg		124.0	705.0	8 / 8	359.0
PCB-085		ng/kg		389.0	996.0	8 / 8	613.6
PCB-086		ng/kg		867.0	2490.0	8 / 8	1443.9
PCB-087	CE	ng/kg	150.0 / 306.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		242.0	954.0	8 / 8	481.3
PCB-089		ng/kg	25.0 / 51.0	30.2	62.1	2 / 8	46.2
PCB-090		ng/kg		1510.0	3660.0	8 / 8	2311.3
PCB-091	CE	ng/kg	14.3 / 29.2	ND	ND	0 / 8	ND
PCB-092		ng/kg		281.0	764.0	8 / 8	456.3
PCB-093		ng/kg		113.0	508.0	8 / 8	257.1
PCB-094		ng/kg	7.0 / 13.8	11.6	39.1	5 / 8	21.9
PCB-095		ng/kg		770.0	2740.0	8 / 8	1371.5
PCB-096		ng/kg	10.0 / 10.0	5.8	33.9	7 / 8	18.8
PCB-097	CE	ng/kg	150.0 / 306.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-098	CE	ng/kg	26.1 / 53.3	ND	ND	0 / 8	ND
PCB-099		ng/kg		1000.0	2510.0	8 / 8	1597.5
PCB-100	CE	ng/kg	26.1 / 53.3	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	24.7 / 50.4	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	26.1 / 53.3	ND	ND	0 / 8	ND
PCB-103		ng/kg	7.2 / 13.7	28.0	81.1	6 / 8	44.4
PCB-104		ng/kg	5.3 / 10.8	ND	ND	0 / 8	ND
PCB-105		ng/kg		559.0	1420.0	8 / 8	885.3
PCB-106		ng/kg	10.0 / 20.4	13.4	13.4	1 / 8	13.4
PCB-107		ng/kg	50.0 / 102.0	61.3	112.0	2 / 8	86.7
PCB-108	CE	ng/kg	150.0 / 306.0	ND	ND	0 / 8	ND
PCB-109		ng/kg		94.1	228.0	8 / 8	153.5
PCB-110		ng/kg		1470.0	4380.0	8 / 8	2541.3
PCB-111		ng/kg	7.2 / 14.7	ND	ND	0 / 8	ND
PCB-112		ng/kg	12.4 / 25.3	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	24.7 / 50.4	ND	ND	0 / 8	ND
PCB-114		ng/kg	11.3 / 12.0	50.7	115.0	6 / 8	76.1
PCB-115	CE	ng/kg	24.4 / 49.8	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	17.8 / 36.3	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	17.8 / 36.3	ND	ND	0 / 8	ND
PCB-118		ng/kg		1370.0	3020.0	8 / 8	2020.0
PCB-119	CE	ng/kg	150.0 / 306.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	5.7 / 11.6	ND	ND	0 / 8	ND
PCB-122		ng/kg		19.0	70.0	8 / 8	40.2
PCB-123		ng/kg		37.9	143.0	8 / 8	71.3
PCB-124	CE	ng/kg	50.0 / 102.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	150.0 / 306.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	7.7 / 15.7	7.8	7.8	2 / 8	7.8
PCB-127		ng/kg	7.3 / 14.9	ND	ND	0 / 8	ND
PCB-128		ng/kg		89.1	224.0	8 / 8	155.8
PCB-129		ng/kg		1360.0	3990.0	8 / 8	2306.3
PCB-130		ng/kg		45.1	111.0	8 / 8	75.2
PCB-131		ng/kg	7.3 / 14.9	ND	ND	0 / 8	ND
PCB-132		ng/kg		156.0	503.0	8 / 8	254.9
PCB-133		ng/kg		24.5	57.8	8 / 8	37.1
PCB-134		ng/kg	50.0 / 102.0	61.8	103.0	2 / 8	82.4
PCB-135		ng/kg		489.0	1900.0	8 / 8	794.3
PCB-136		ng/kg		50.9	167.0	8 / 8	79.9
PCB-137		ng/kg	23.1 / 23.1	32.2	76.9	7 / 8	52.1
PCB-138	CE	ng/kg	30.7 / 62.7	ND	ND	0 / 8	ND
PCB-139		ng/kg	18.7 / 38.2	23.9	26.7	2 / 8	25.3
PCB-140	CE	ng/kg	18.7 / 38.2	ND	ND	0 / 8	ND
PCB-141		ng/kg		151.0	507.0	8 / 8	275.1
PCB-142		ng/kg	6.8 / 13.9	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	50.0 / 102.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	26.8 / 26.8	33.1	101.0	7 / 8	56.6
PCB-145		ng/kg	6.2 / 12.7	ND	ND	0 / 8	ND
PCB-146		ng/kg		331.0	998.0	8 / 8	543.1
PCB-147		ng/kg		1210.0	4790.0	8 / 8	2023.8
PCB-148		ng/kg	7.9 / 16.1	17.1	17.1	1 / 8	17.1
PCB-149	CE	ng/kg	43.5 / 88.8	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-150		ng/kg	5.9 / 12.0	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	26.3 / 53.7	ND	ND	0 / 8	ND
PCB-152		ng/kg	5.5 / 11.2	ND	ND	0 / 8	ND
PCB-153		ng/kg		1130.0	3030.0	8 / 8	1830.0
PCB-154		ng/kg	13.6 / 14.7	33.1	102.0	5 / 8	56.6
PCB-155		ng/kg	5.9 / 12.0	ND	ND	0 / 8	ND
PCB-156		ng/kg	100.0 / 102.0	96.5	199.0	6 / 8	150.6
PCB-157	CE	ng/kg	50.0 / 102.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		81.7	217.0	8 / 8	137.4
PCB-159		ng/kg	6.3 / 12.9	12.3	12.3	1 / 8	12.3
PCB-160		ng/kg	11.6 / 23.7	ND	ND	0 / 8	ND
PCB-161		ng/kg	5.3 / 10.8	ND	ND	0 / 8	ND
PCB-162		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	30.7 / 62.7	ND	ND	0 / 8	ND
PCB-164		ng/kg		70.6	258.0	8 / 8	136.7
PCB-165		ng/kg	10.6 / 21.6	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	18.2 / 37.1	ND	ND	0 / 8	ND
PCB-167		ng/kg	50.0 / 51.0	39.5	83.4	6 / 8	65.6
PCB-168	CE	ng/kg	27.6 / 56.3	ND	ND	0 / 8	ND
PCB-169		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		181.0	513.0	8 / 8	282.0
PCB-171		ng/kg		62.5	195.0	8 / 8	101.8
PCB-172		ng/kg		45.2	118.0	8 / 8	69.3
PCB-173	CE	ng/kg	16.2 / 33.1	ND	ND	0 / 8	ND
PCB-174		ng/kg		195.0	756.0	8 / 8	338.4
PCB-175		ng/kg	6.8 / 13.9	15.7	20.8	2 / 8	18.3
PCB-176		ng/kg	25.0 / 51.0	26.6	51.7	2 / 8	39.2
PCB-177		ng/kg		144.0	440.0	8 / 8	216.5
PCB-178		ng/kg	47.2 / 47.2	77.5	206.0	7 / 8	114.6
PCB-179		ng/kg		64.2	205.0	8 / 8	95.5
PCB-180		ng/kg		647.0	1920.0	8 / 8	1057.6
PCB-181		ng/kg	9.7 / 19.8	ND	ND	0 / 8	ND
PCB-182		ng/kg	17.7 / 36.1	ND	ND	0 / 8	ND
PCB-183		ng/kg		176.0	531.0	8 / 8	284.1
PCB-184		ng/kg	5.9 / 12.0	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	19.2 / 39.2	ND	ND	0 / 8	ND
PCB-186		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		1440.0	5430.0	8 / 8	2375.0
PCB-188		ng/kg	3.8 / 7.8	ND	ND	0 / 8	ND
PCB-189		ng/kg	25.0 / 51.0	ND	ND	0 / 8	ND
PCB-190		ng/kg		36.1	123.0	8 / 8	61.4
PCB-191		ng/kg	12.3 / 13.3	7.7	30.9	4 / 8	18.1
PCB-192		ng/kg	8.6 / 17.6	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	24.1 / 49.2	ND	ND	0 / 8	ND
PCB-194		ng/kg	24.4 / 24.4	77.7	210.0	7 / 8	130.6
PCB-195		ng/kg		39.7	75.8	8 / 8	54.1
PCB-196		ng/kg		36.8	102.0	8 / 8	64.1
PCB-197		ng/kg	16.3 / 33.3	25.4	25.4	1 / 8	25.4
PCB-198		ng/kg		157.0	613.0	8 / 8	275.8
PCB-199	CE	ng/kg	16.1 / 32.9	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	16.3 / 33.3	ND	ND	0 / 8	ND
PCB-201		ng/kg	37.5 / 76.5	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-202		ng/kg	26.0 / 28.1	27.7	75.4	5 / 8	49.2
PCB-203		ng/kg		66.2	223.0	8 / 8	121.0
PCB-204		ng/kg	37.5 / 76.5	ND	ND	0 / 8	ND
PCB-205		ng/kg	9.1 / 18.6	17.1	17.1	1 / 8	17.1
PCB-206		ng/kg	10.1 / 20.6	23.2	129.0	2 / 8	76.1
PCB-207		ng/kg	37.5 / 76.5	ND	ND	0 / 8	ND
PCB-208		ng/kg	8.5 / 17.3	21.8	41.8	2 / 8	31.8
PCB-209		ng/kg	37.5 / 76.5	57.4	57.4	1 / 8	57.4
Monochloro BP		ng/kg		377.0	1840.0	8 / 8	960.9
Dichloro BP		ng/kg		3120.0	32700.0	8 / 8	16027.5
Trichloro BP		ng/kg		14300.0	87000.0	8 / 8	45550.0
Tetrachloro BP		ng/kg		23700.0	87600.0	8 / 8	50875.0
Pentachloro BP		ng/kg		9570.0	23900.0	8 / 8	15052.5
Hexachloro BP		ng/kg		5290.0	17400.0	8 / 8	8978.8
Heptachloro BP		ng/kg		3320.0	10500.0	8 / 8	4998.8
Octachloro BP		ng/kg		347.0	1310.0	8 / 8	664.9
Nonachloro BP		ng/kg		0.0	171.0	8 / 8	27.0
Decachloro BP		ng/kg		0.0	57.4	8 / 8	7.2
Total BPs		ng/kg		66800.0	259000.0	8 / 8	143112.5
PCB-1016		ug/kg	30.4 / 46.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	30.4 / 46.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	30.4 / 46.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg		70.3	261.0	8 / 8	152.7
PCB-1248		ug/kg	30.4 / 46.6	ND	ND	0 / 8	ND
PCB-1254		ug/kg	30.4 / 46.6	49.7	50.8	2 / 8	50.3
PCB-1260		ug/kg	30.4 / 46.6	ND	ND	0 / 8	ND
Total Aroclors		ug/kg		70.3	311.0	8 / 8	165.3

Table A-4. Summary statistics for channel catfish at BLK27

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		35.9	61.5	8 / 8	44.8
Weight, total		g		425.0	2055.8	8 / 8	891.2
Weight, fillet		g		122.1	753.8	8 / 8	304.2
Lipid		%		1.2	9.0	8 / 8	4.5
PCB-001		ng/kg		187.0	2070.0	8 / 8	946.9
PCB-002		ng/kg	44.9 / 48.5	ND	ND	0 / 8	ND
PCB-003		ng/kg		39.1	361.0	8 / 8	187.6
PCB-004		ng/kg		3410.0	31100.0	8 / 8	14782.5
PCB-005		ng/kg	5.0 / 5.3	78.1	132.0	4 / 8	105.5
PCB-006		ng/kg		304.0	4930.0	8 / 8	2171.3
PCB-007		ng/kg	56.3 / 57.4	76.2	501.0	6 / 8	335.7
PCB-008		ng/kg		1070.0	18600.0	8 / 8	9033.8
PCB-009		ng/kg		62.4	692.0	8 / 8	355.6
PCB-010		ng/kg		106.0	1060.0	8 / 8	446.4
PCB-011		ng/kg	370.0 / 400.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	97.6 / 100.0	111.0	347.0	5 / 8	221.6
PCB-013	CE	ng/kg	93.1 / 100.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	30.6 / 33.0	ND	ND	0 / 8	ND
PCB-015		ng/kg		69.9	668.0	8 / 8	320.2
PCB-016		ng/kg		419.0	5000.0	8 / 8	2294.0
PCB-017		ng/kg		1950.0	20500.0	8 / 8	10647.5
PCB-018		ng/kg		1240.0	13100.0	8 / 8	6872.5
PCB-019		ng/kg		912.0	8200.0	8 / 8	4162.8
PCB-020		ng/kg		2830.0	36500.0	8 / 8	21076.3
PCB-021		ng/kg	277.0 / 285.0	363.0	3100.0	6 / 8	1641.2
PCB-022		ng/kg		577.0	8540.0	8 / 8	4312.1
PCB-023		ng/kg	22.9 / 24.0	23.1	31.3	3 / 8	27.3
PCB-024		ng/kg		36.7	541.0	8 / 8	191.1
PCB-025		ng/kg		262.0	3420.0	8 / 8	1448.1
PCB-026		ng/kg		425.0	4340.0	8 / 8	2531.6
PCB-027		ng/kg		375.0	4700.0	8 / 8	1958.1
PCB-028	CE	ng/kg	238.0 / 258.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	34.3 / 37.0	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		1470.0	18700.0	8 / 8	8210.0
PCB-032		ng/kg		1230.0	14700.0	8 / 8	6581.3
PCB-033	CE	ng/kg	264.0 / 285.0	ND	ND	0 / 8	ND
PCB-034		ng/kg		23.9	280.0	8 / 8	158.0
PCB-035		ng/kg	28.7 / 31.0	ND	ND	0 / 8	ND
PCB-036		ng/kg	25.5 / 27.5	ND	ND	0 / 8	ND
PCB-037		ng/kg	92.9 / 97.5	102.0	148.0	3 / 8	127.7
PCB-038		ng/kg	17.1 / 18.0	18.5	48.6	4 / 8	30.1
PCB-039		ng/kg	32.5 / 33.5	48.4	125.0	5 / 8	81.1
PCB-040		ng/kg		609.0	12100.0	8 / 8	4466.0
PCB-041	CE	ng/kg	347.0 / 375.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		495.0	9860.0	8 / 8	4366.9
PCB-043		ng/kg		64.8	1070.0	8 / 8	505.6
PCB-044		ng/kg		2020.0	38100.0	8 / 8	15796.3
PCB-045		ng/kg		418.0	5100.0	8 / 8	2273.6
PCB-046		ng/kg	121.0 / 121.0	151.0	1270.0	7 / 8	553.6
PCB-047	CE	ng/kg	124.0 / 134.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg		275.0	4540.0	8 / 8	1941.1
PCB-049		ng/kg		1230.0	24200.0	8 / 8	11040.0
PCB-050		ng/kg	243.0 / 243.0	356.0	2970.0	7 / 8	1268.0
PCB-051	CE	ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		1500.0	26100.0	8 / 8	11386.3
PCB-053	CE	ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	119.0 / 125.0	120.0	150.0	2 / 8	135.0
PCB-055		ng/kg	32.4 / 35.0	69.4	69.4	1 / 8	69.4
PCB-056		ng/kg		198.0	5570.0	8 / 8	2092.4
PCB-057		ng/kg	25.7 / 26.5	26.1	51.1	5 / 8	36.3
PCB-058		ng/kg	26.7 / 27.5	31.7	93.4	6 / 8	55.4
PCB-059		ng/kg	364.0 / 364.0	434.0	3590.0	7 / 8	1695.3
PCB-060		ng/kg		260.0	6040.0	8 / 8	2683.0
PCB-061		ng/kg		1230.0	20900.0	8 / 8	10137.5
PCB-062	CE	ng/kg	347.0 / 375.0	ND	ND	0 / 8	ND
PCB-063		ng/kg		67.3	1270.0	8 / 8	611.0
PCB-064		ng/kg		847.0	17000.0	8 / 8	7693.4
PCB-065	CE	ng/kg	124.0 / 134.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		1080.0	25700.0	8 / 8	11718.8
PCB-067		ng/kg	33.0 / 34.0	59.3	342.0	6 / 8	190.2
PCB-068		ng/kg	116.0 / 125.0	170.0	201.0	2 / 8	185.5
PCB-069	CE	ng/kg	65.3 / 70.5	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	198.0 / 213.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	347.0 / 375.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	24.8 / 25.5	36.9	132.0	6 / 8	89.4
PCB-073	CE	ng/kg	56.5 / 61.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	198.0 / 213.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	347.0 / 375.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	198.0 / 213.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	28.6 / 29.5	39.2	170.0	6 / 8	116.4
PCB-078		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	32.4 / 35.0	39.2	111.0	4 / 8	67.3
PCB-080		ng/kg	28.7 / 31.0	ND	ND	0 / 8	ND
PCB-081		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	34.8 / 34.8	50.8	1190.0	7 / 8	423.8
PCB-083		ng/kg	82.9 / 87.0	205.0	675.0	5 / 8	387.8
PCB-084		ng/kg		112.0	2230.0	8 / 8	782.6
PCB-085		ng/kg		138.0	3400.0	8 / 8	1523.8
PCB-086		ng/kg	728.0 / 750.0	908.0	8110.0	6 / 8	3909.7
PCB-087	CE	ng/kg	694.0 / 750.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		151.0	2930.0	8 / 8	1281.1
PCB-089		ng/kg	116.0 / 125.0	174.0	174.0	1 / 8	174.0
PCB-090		ng/kg		1000.0	12200.0	8 / 8	5068.8
PCB-091	CE	ng/kg	66.2 / 71.5	ND	ND	0 / 8	ND
PCB-092		ng/kg		189.0	3120.0	8 / 8	1350.9
PCB-093		ng/kg	127.0 / 130.0	188.0	1230.0	6 / 8	626.3
PCB-094		ng/kg	33.5 / 34.5	50.6	155.0	6 / 8	93.1
PCB-095		ng/kg		518.0	6930.0	8 / 8	2545.4
PCB-096		ng/kg	25.2 / 26.5	36.9	61.8	3 / 8	45.7
PCB-097	CE	ng/kg	694.0 / 750.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	121.0 / 130.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		461.0	8510.0	8 / 8	3892.8

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	121.0 / 130.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	114.0 / 123.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	121.0 / 130.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	34.5 / 35.5	53.5	191.0	6 / 8	106.0
PCB-104		ng/kg	24.5 / 26.5	ND	ND	0 / 8	ND
PCB-105		ng/kg		191.0	3920.0	8 / 8	1794.6
PCB-106		ng/kg	46.3 / 50.0	ND	ND	0 / 8	ND
PCB-107		ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	694.0 / 750.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	52.9 / 52.9	55.7	919.0	7 / 8	431.8
PCB-110		ng/kg		919.0	17300.0	8 / 8	6542.4
PCB-111		ng/kg	33.3 / 36.0	ND	ND	0 / 8	ND
PCB-112		ng/kg	57.4 / 62.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	114.0 / 123.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	28.6 / 29.5	58.4	313.0	6 / 8	178.7
PCB-115	CE	ng/kg	113.0 / 122.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	82.4 / 89.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	82.4 / 89.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		596.0	9960.0	8 / 8	4524.4
PCB-119	CE	ng/kg	694.0 / 750.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	26.4 / 28.5	ND	ND	0 / 8	ND
PCB-122		ng/kg	36.1 / 39.0	46.0	111.0	4 / 8	68.6
PCB-123		ng/kg	46.6 / 48.0	63.9	253.0	6 / 8	149.6
PCB-124	CE	ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	694.0 / 750.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	35.6 / 38.5	ND	ND	0 / 8	ND
PCB-127		ng/kg	33.8 / 36.5	ND	ND	0 / 8	ND
PCB-128		ng/kg		89.6	1900.0	8 / 8	567.8
PCB-129		ng/kg		1190.0	16700.0	8 / 8	7250.0
PCB-130		ng/kg		37.1	531.0	8 / 8	199.8
PCB-131		ng/kg	33.8 / 36.5	75.9	75.9	1 / 8	75.9
PCB-132		ng/kg		133.0	2140.0	8 / 8	689.9
PCB-133		ng/kg	31.5 / 31.5	34.5	255.0	7 / 8	132.4
PCB-134		ng/kg	231.0 / 250.0	371.0	371.0	1 / 8	371.0
PCB-135		ng/kg		350.0	6150.0	8 / 8	2798.9
PCB-136		ng/kg	36.0 / 36.0	75.7	318.0	7 / 8	151.8
PCB-137		ng/kg	58.2 / 60.0	88.7	414.0	6 / 8	209.6
PCB-138	CE	ng/kg	142.0 / 154.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	86.6 / 93.5	144.0	155.0	2 / 8	149.5
PCB-140	CE	ng/kg	86.6 / 93.5	ND	ND	0 / 8	ND
PCB-141		ng/kg		158.0	2230.0	8 / 8	945.4
PCB-142		ng/kg	31.5 / 34.0	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	67.0 / 67.0	72.3	285.0	7 / 8	134.2
PCB-145		ng/kg	28.7 / 31.0	ND	ND	0 / 8	ND
PCB-146		ng/kg		312.0	4400.0	8 / 8	1923.8
PCB-147		ng/kg		758.0	15400.0	8 / 8	5987.3
PCB-148		ng/kg	36.6 / 39.5	57.3	67.5	2 / 8	62.4
PCB-149	CE	ng/kg	201.0 / 217.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	27.3 / 29.5	32.4	32.4	1 / 8	32.4
PCB-151	CE	ng/kg	122.0 / 132.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-152		ng/kg	25.5 / 27.5	ND	ND	0 / 8	ND
PCB-153		ng/kg		1170.0	13200.0	8 / 8	6213.8
PCB-154		ng/kg	36.0 / 36.0	37.0	336.0	7 / 8	173.8
PCB-155		ng/kg	27.3 / 29.5	ND	ND	0 / 8	ND
PCB-156		ng/kg	240.0 / 250.0	262.0	971.0	5 / 8	554.8
PCB-157	CE	ng/kg	231.0 / 250.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		81.7	1020.0	8 / 8	447.8
PCB-159		ng/kg	29.2 / 31.5	ND	ND	0 / 8	ND
PCB-160		ng/kg	53.7 / 58.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	24.5 / 26.5	ND	ND	0 / 8	ND
PCB-162		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	142.0 / 154.0	ND	ND	0 / 8	ND
PCB-164		ng/kg		75.3	1170.0	8 / 8	495.0
PCB-165		ng/kg	49.1 / 53.0	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	84.1 / 90.8	ND	ND	0 / 8	ND
PCB-167		ng/kg	116.0 / 125.0	124.0	426.0	5 / 8	253.2
PCB-168	CE	ng/kg	128.0 / 138.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		261.0	2890.0	8 / 8	1167.5
PCB-171		ng/kg	81.0 / 81.0	162.0	942.0	7 / 8	415.0
PCB-172		ng/kg		74.8	684.0	8 / 8	283.5
PCB-173	CE	ng/kg	75.0 / 81.0	ND	ND	0 / 8	ND
PCB-174		ng/kg		219.0	3460.0	8 / 8	1454.8
PCB-175		ng/kg	32.7 / 34.0	36.9	123.0	5 / 8	70.8
PCB-176		ng/kg	116.0 / 125.0	167.0	167.0	1 / 8	167.0
PCB-177		ng/kg		91.6	1980.0	8 / 8	661.0
PCB-178		ng/kg	125.0 / 125.0	139.0	863.0	7 / 8	449.3
PCB-179		ng/kg		39.5	633.0	8 / 8	332.3
PCB-180		ng/kg		1090.0	9290.0	8 / 8	4016.3
PCB-181		ng/kg	44.9 / 48.5	ND	ND	0 / 8	ND
PCB-182		ng/kg	81.9 / 88.5	ND	ND	0 / 8	ND
PCB-183		ng/kg		188.0	2290.0	8 / 8	984.8
PCB-184		ng/kg	27.3 / 29.5	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	88.9 / 96.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	116.0 / 125.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		1720.0	20500.0	8 / 8	9322.5
PCB-188		ng/kg	17.6 / 19.0	ND	ND	0 / 8	ND
PCB-189		ng/kg	116.0 / 125.0	127.0	127.0	1 / 8	127.0
PCB-190		ng/kg	65.5 / 67.5	83.7	261.0	6 / 8	139.9
PCB-191		ng/kg	31.6 / 32.5	35.9	112.0	6 / 8	61.1
PCB-192		ng/kg	39.8 / 43.0	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	112.0 / 120.0	ND	ND	0 / 8	ND
PCB-194		ng/kg		159.0	944.0	8 / 8	417.4
PCB-195		ng/kg	73.8 / 73.8	108.0	516.0	7 / 8	239.7
PCB-196		ng/kg		86.8	605.0	8 / 8	260.0
PCB-197		ng/kg	75.6 / 81.7	84.3	138.0	3 / 8	104.4
PCB-198		ng/kg		351.0	2330.0	8 / 8	1149.0
PCB-199	CE	ng/kg	74.7 / 80.7	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	75.6 / 81.7	ND	ND	0 / 8	ND
PCB-201		ng/kg	174.0 / 188.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	66.9 / 68.9	79.8	252.0	6 / 8	160.0
PCB-203		ng/kg		170.0	887.0	8 / 8	446.1

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-204		ng/kg	174.0 / 188.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	42.3 / 45.7	66.7	80.7	2 / 8	73.7
PCB-206		ng/kg		69.2	266.0	8 / 8	155.1
PCB-207		ng/kg	174.0 / 188.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	39.3 / 42.4	67.0	75.4	4 / 8	72.5
PCB-209		ng/kg	174.0 / 188.0	211.0	211.0	1 / 8	211.0
Monochloro BP		ng/kg		231.0	2430.0	8 / 8	1133.6
Dichloro BP		ng/kg		5690.0	56500.0	8 / 8	27545.0
Trichloro BP		ng/kg		11800.0	128000.0	8 / 8	71787.5
Tetrachloro BP		ng/kg		10300.0	207000.0	8 / 8	90425.0
Pentachloro BP		ng/kg		4330.0	83900.0	8 / 8	34162.5
Hexachloro BP		ng/kg		4350.0	67400.0	8 / 8	28816.3
Heptachloro BP		ng/kg		3690.0	44400.0	8 / 8	19215.0
Octachloro BP		ng/kg		767.0	5750.0	8 / 8	2659.6
Nonachloro BP		ng/kg		69.2	341.0	8 / 8	191.3
Decachloro BP		ng/kg		0.0	211.0	8 / 8	26.4
Total BPs		ng/kg		51100.0	595000.0	8 / 8	275587.5
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg		35.7	270.0	8 / 8	169.1
PCB-1248		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1254		ug/kg	19.6 / 19.6	40.3	124.0	6 / 8	79.3
PCB-1260		ug/kg	19.6 / 19.6	21.6	69.8	7 / 8	40.9
Total Aroclors		ug/kg		56.5	443.0	8 / 8	264.2

Table A-5. Summary statistics for green sunfish at BLK27

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		11.3	14.0	8 / 8	12.2
Weight, total		g		26.4	69.1	8 / 8	39.1
Weight, fillet		g		10.8	26.0	8 / 8	16.1
Lipid		%		0.5	1.2	8 / 8	0.8
PCB-001		ng/kg		106.0	5570.0	8 / 8	854.1
PCB-002		ng/kg	48.0 / 101.0	ND	ND	0 / 8	ND
PCB-003		ng/kg	52.9 / 52.9	57.4	509.0	7 / 8	145.6
PCB-004		ng/kg		1510.0	15200.0	8 / 8	4006.3
PCB-005		ng/kg	5.2 / 10.9	ND	ND	0 / 8	ND
PCB-006		ng/kg		433.0	1070.0	8 / 8	737.0
PCB-007		ng/kg	114.0 / 116.0	80.9	162.0	6 / 8	122.5
PCB-008		ng/kg		2760.0	6040.0	8 / 8	4272.5
PCB-009		ng/kg	97.1 / 99.0	100.0	234.0	6 / 8	168.0
PCB-010		ng/kg	61.9 / 130.0	64.6	1040.0	3 / 8	416.5
PCB-011		ng/kg	396.0 / 833.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	102.0 / 209.0	219.0	227.0	2 / 8	223.0
PCB-013	CE	ng/kg	99.5 / 209.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	32.7 / 68.8	ND	ND	0 / 8	ND
PCB-015		ng/kg		344.0	2460.0	8 / 8	1301.6
PCB-016		ng/kg		327.0	788.0	8 / 8	544.3
PCB-017		ng/kg	125.0 / 125.0	1910.0	3940.0	7 / 8	2940.0
PCB-018		ng/kg		1140.0	2990.0	8 / 8	2033.8
PCB-019		ng/kg		453.0	3150.0	8 / 8	1081.1
PCB-020		ng/kg		6060.0	20800.0	8 / 8	11791.3
PCB-021		ng/kg		1060.0	2920.0	8 / 8	1703.8
PCB-022		ng/kg		1430.0	4780.0	8 / 8	2618.8
PCB-023		ng/kg	23.8 / 50.0	ND	ND	0 / 8	ND
PCB-024		ng/kg	53.9 / 57.3	29.3	628.0	6 / 8	165.8
PCB-025		ng/kg		824.0	2280.0	8 / 8	1488.0
PCB-026		ng/kg		1240.0	3330.0	8 / 8	2297.5
PCB-027		ng/kg		337.0	1890.0	8 / 8	792.5
PCB-028	CE	ng/kg	255.0 / 536.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	36.6 / 77.1	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		4240.0	11900.0	8 / 8	7947.5
PCB-032		ng/kg		1900.0	6960.0	8 / 8	3421.3
PCB-033	CE	ng/kg	282.0 / 594.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	44.1 / 44.1	51.6	94.1	7 / 8	73.5
PCB-035		ng/kg	30.7 / 64.6	ND	ND	0 / 8	ND
PCB-036		ng/kg	27.2 / 57.3	ND	ND	0 / 8	ND
PCB-037		ng/kg		369.0	1900.0	8 / 8	1013.1
PCB-038		ng/kg	17.8 / 37.5	ND	ND	0 / 8	ND
PCB-039		ng/kg	33.8 / 69.8	35.5	35.5	1 / 8	35.5
PCB-040		ng/kg		1430.0	7380.0	8 / 8	2931.3
PCB-041	CE	ng/kg	371.0 / 781.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		883.0	4740.0	8 / 8	1967.9
PCB-043		ng/kg		126.0	656.0	8 / 8	236.5
PCB-044		ng/kg		3520.0	19300.0	8 / 8	8107.5
PCB-045		ng/kg		594.0	2500.0	8 / 8	1140.0
PCB-046		ng/kg	124.0 / 260.0	278.0	278.0	1 / 8	278.0
PCB-047	CE	ng/kg	132.0 / 278.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg		480.0	1610.0	8 / 8	917.4
PCB-049		ng/kg		2480.0	18200.0	8 / 8	6446.3
PCB-050		ng/kg	490.0 / 490.0	439.0	2110.0	7 / 8	837.3
PCB-051	CE	ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		3180.0	22500.0	8 / 8	7703.8
PCB-053	CE	ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-055		ng/kg		74.2	496.0	8 / 8	172.0
PCB-056		ng/kg		1090.0	8130.0	8 / 8	2868.8
PCB-057		ng/kg	26.2 / 55.2	36.6	102.0	3 / 8	66.8
PCB-058		ng/kg	27.2 / 57.3	60.6	60.6	1 / 8	60.6
PCB-059		ng/kg	735.0 / 781.0	551.0	2460.0	6 / 8	1010.5
PCB-060		ng/kg		747.0	6430.0	8 / 8	2070.9
PCB-061		ng/kg		4650.0	26800.0	8 / 8	11530.0
PCB-062	CE	ng/kg	371.0 / 781.0	ND	ND	0 / 8	ND
PCB-063		ng/kg		169.0	1080.0	8 / 8	420.8
PCB-064		ng/kg		1750.0	12300.0	8 / 8	4235.0
PCB-065	CE	ng/kg	132.0 / 278.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		2720.0	23300.0	8 / 8	7493.8
PCB-067		ng/kg		107.0	596.0	8 / 8	254.9
PCB-068		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	69.8 / 147.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	211.0 / 445.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	371.0 / 781.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	50.0 / 50.0	55.4	171.0	7 / 8	84.1
PCB-073	CE	ng/kg	60.4 / 127.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	211.0 / 445.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	371.0 / 781.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	211.0 / 445.0	ND	ND	0 / 8	ND
PCB-077		ng/kg		158.0	1220.0	8 / 8	459.8
PCB-078		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	34.7 / 72.9	84.6	84.6	1 / 8	84.6
PCB-080		ng/kg	30.7 / 64.6	ND	ND	0 / 8	ND
PCB-081		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-082		ng/kg		107.0	763.0	8 / 8	278.4
PCB-083		ng/kg	86.1 / 181.0	258.0	258.0	1 / 8	258.0
PCB-084		ng/kg		180.0	918.0	8 / 8	377.8
PCB-085		ng/kg		297.0	2430.0	8 / 8	817.3
PCB-086		ng/kg	1470.0 / 1560.0	1150.0	6120.0	6 / 8	2248.3
PCB-087	CE	ng/kg	743.0 / 1560.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		240.0	1210.0	8 / 8	527.8
PCB-089		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		1070.0	9740.0	8 / 8	3011.3
PCB-091	CE	ng/kg	70.8 / 149.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		226.0	1790.0	8 / 8	552.5
PCB-093		ng/kg	256.0 / 272.0	161.0	460.0	5 / 8	266.4
PCB-094		ng/kg	34.2 / 71.9	ND	ND	0 / 8	ND
PCB-095		ng/kg		715.0	5000.0	8 / 8	1599.5
PCB-096		ng/kg	26.2 / 55.2	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	743.0 / 1560.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	129.0 / 272.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		713.0	5640.0	8 / 8	1920.4

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	129.0 / 272.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	122.0 / 257.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	129.0 / 272.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	35.1 / 74.0	ND	ND	0 / 8	ND
PCB-104		ng/kg	26.2 / 55.2	ND	ND	0 / 8	ND
PCB-105		ng/kg		372.0	3530.0	8 / 8	1148.8
PCB-106		ng/kg	49.5 / 104.0	ND	ND	0 / 8	ND
PCB-107		ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	743.0 / 1560.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	107.0 / 107.0	140.0	640.0	7 / 8	239.3
PCB-110		ng/kg		1210.0	9170.0	8 / 8	3002.5
PCB-111		ng/kg	35.6 / 75.0	ND	ND	0 / 8	ND
PCB-112		ng/kg	61.4 / 129.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	122.0 / 257.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	57.8 / 57.8	66.4	275.0	7 / 8	108.7
PCB-115	CE	ng/kg	121.0 / 254.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	88.1 / 185.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	88.1 / 185.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		880.0	8230.0	8 / 8	2626.3
PCB-119	CE	ng/kg	743.0 / 1560.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	28.2 / 59.4	ND	ND	0 / 8	ND
PCB-122		ng/kg	38.6 / 81.2	147.0	147.0	1 / 8	147.0
PCB-123		ng/kg	90.6 / 100.0	51.8	243.0	3 / 8	116.3
PCB-124	CE	ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	743.0 / 1560.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	38.1 / 80.2	ND	ND	0 / 8	ND
PCB-127		ng/kg	36.1 / 76.0	ND	ND	0 / 8	ND
PCB-128		ng/kg	171.0 / 189.0	117.0	972.0	4 / 8	356.3
PCB-129		ng/kg		1040.0	10700.0	8 / 8	2903.8
PCB-130		ng/kg	69.6 / 74.0	61.5	464.0	5 / 8	155.5
PCB-131		ng/kg	36.1 / 76.0	ND	ND	0 / 8	ND
PCB-132		ng/kg	123.0 / 123.0	189.0	1390.0	7 / 8	402.0
PCB-133		ng/kg	59.4 / 65.6	34.5	138.0	3 / 8	69.2
PCB-134		ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-135		ng/kg		408.0	2940.0	8 / 8	886.6
PCB-136		ng/kg	70.6 / 75.0	53.0	409.0	5 / 8	140.2
PCB-137		ng/kg	59.4 / 125.0	416.0	416.0	1 / 8	416.0
PCB-138	CE	ng/kg	152.0 / 320.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	92.6 / 195.0	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	92.6 / 195.0	ND	ND	0 / 8	ND
PCB-141		ng/kg		122.0	1610.0	8 / 8	392.4
PCB-142		ng/kg	33.7 / 70.8	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	66.3 / 140.0	310.0	310.0	1 / 8	310.0
PCB-145		ng/kg	30.7 / 64.6	ND	ND	0 / 8	ND
PCB-146		ng/kg		290.0	1890.0	8 / 8	634.0
PCB-147		ng/kg		1010.0	7060.0	8 / 8	2205.0
PCB-148		ng/kg	39.1 / 82.3	ND	ND	0 / 8	ND
PCB-149	CE	ng/kg	215.0 / 453.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	29.2 / 61.5	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	130.0 / 274.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-152		ng/kg	27.2 / 57.3	ND	ND	0 / 8	ND
PCB-153		ng/kg		829.0	8000.0	8 / 8	2313.6
PCB-154		ng/kg	67.9 / 75.0	47.3	50.3	2 / 8	48.8
PCB-155		ng/kg	29.2 / 61.5	ND	ND	0 / 8	ND
PCB-156		ng/kg	248.0 / 521.0	642.0	642.0	1 / 8	642.0
PCB-157	CE	ng/kg	248.0 / 521.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		60.7	771.0	8 / 8	194.6
PCB-159		ng/kg	31.2 / 65.6	ND	ND	0 / 8	ND
PCB-160		ng/kg	57.4 / 121.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	26.2 / 55.2	ND	ND	0 / 8	ND
PCB-162		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	152.0 / 320.0	ND	ND	0 / 8	ND
PCB-164		ng/kg	115.0 / 122.0	97.1	553.0	5 / 8	210.2
PCB-165		ng/kg	52.5 / 110.0	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	89.9 / 189.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	124.0 / 260.0	310.0	310.0	1 / 8	310.0
PCB-168	CE	ng/kg	137.0 / 288.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		108.0	936.0	8 / 8	278.9
PCB-171		ng/kg	80.2 / 169.0	322.0	322.0	1 / 8	322.0
PCB-172		ng/kg	45.5 / 93.8	57.5	226.0	2 / 8	141.8
PCB-173	CE	ng/kg	80.2 / 169.0	ND	ND	0 / 8	ND
PCB-174		ng/kg		151.0	952.0	8 / 8	307.4
PCB-175		ng/kg	33.7 / 70.8	ND	ND	0 / 8	ND
PCB-176		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-177		ng/kg		101.0	721.0	8 / 8	232.9
PCB-178		ng/kg	124.0 / 260.0	308.0	308.0	1 / 8	308.0
PCB-179		ng/kg	66.7 / 70.8	45.4	292.0	5 / 8	112.1
PCB-180		ng/kg		370.0	2950.0	8 / 8	943.3
PCB-181		ng/kg	48.0 / 101.0	ND	ND	0 / 8	ND
PCB-182		ng/kg	87.6 / 184.0	ND	ND	0 / 8	ND
PCB-183		ng/kg	188.0 / 200.0	168.0	855.0	6 / 8	312.5
PCB-184		ng/kg	29.2 / 61.5	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	95.0 / 200.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		1010.0	4400.0	8 / 8	1763.8
PCB-188		ng/kg	18.8 / 39.6	ND	ND	0 / 8	ND
PCB-189		ng/kg	124.0 / 260.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	66.8 / 141.0	156.0	156.0	1 / 8	156.0
PCB-191		ng/kg	32.2 / 67.7	ND	ND	0 / 8	ND
PCB-192		ng/kg	42.6 / 89.6	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	119.0 / 251.0	ND	ND	0 / 8	ND
PCB-194		ng/kg	120.0 / 132.0	73.2	339.0	3 / 8	162.7
PCB-195		ng/kg	73.1 / 154.0	195.0	195.0	1 / 8	195.0
PCB-196		ng/kg	52.3 / 110.0	187.0	187.0	1 / 8	187.0
PCB-197		ng/kg	80.9 / 170.0	ND	ND	0 / 8	ND
PCB-198		ng/kg	158.0 / 168.0	133.0	613.0	6 / 8	241.7
PCB-199	CE	ng/kg	79.9 / 168.0	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	80.9 / 170.0	ND	ND	0 / 8	ND
PCB-201		ng/kg	186.0 / 391.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	68.2 / 144.0	ND	ND	0 / 8	ND
PCB-203		ng/kg	96.5 / 107.0	71.8	324.0	4 / 8	145.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-204		ng/kg	186.0 / 391.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	45.2 / 95.1	ND	ND	0 / 8	ND
PCB-206		ng/kg	50.0 / 105.0	ND	ND	0 / 8	ND
PCB-207		ng/kg	186.0 / 391.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	42.0 / 88.3	ND	ND	0 / 8	ND
PCB-209		ng/kg	186.0 / 391.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		116.0	6080.0	8 / 8	981.5
Dichloro BP		ng/kg		5050.0	24400.0	8 / 8	10743.8
Trichloro BP		ng/kg		21400.0	58900.0	8 / 8	39487.5
Tetrachloro BP		ng/kg		24200.0	162000.0	8 / 8	60550.0
Pentachloro BP		ng/kg		6010.0	56600.0	8 / 8	18113.8
Hexachloro BP		ng/kg		3760.0	38500.0	8 / 8	10617.5
Heptachloro BP		ng/kg		1740.0	12100.0	8 / 8	3962.5
Octachloro BP		ng/kg		0.0	1660.0	8 / 8	362.8
Nonachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		62200.0	361000.0	8 / 8	145050.0
PCB-1016		ug/kg	19.6 / 43.3	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 43.3	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 43.3	ND	ND	0 / 8	ND
PCB-1242		ug/kg	30.7 / 30.7	85.9	151.0	7 / 8	119.4
PCB-1248		ug/kg	19.6 / 43.3	ND	ND	0 / 8	ND
PCB-1254		ug/kg	30.7 / 43.3	29.5	30.9	2 / 8	30.2
PCB-1260		ug/kg	19.6 / 43.3	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	30.7 / 30.7	85.9	173.0	7 / 8	128.0

Table A-6. Summary Statistics for channel catfish at BLK31

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		34.5	49.3	8 / 8	40.0
Weight, total		g		380.3	1120.0	8 / 8	585.8
Weight, fillet		g		102.3	327.9	8 / 8	169.5
Lipid		%		1.8	3.7	8 / 8	2.6
PCB-001		ng/kg	15.7 / 32.4	ND	ND	0 / 8	ND
PCB-002		ng/kg	42.2 / 87.4	ND	ND	0 / 8	ND
PCB-003		ng/kg	23.5 / 48.6	ND	ND	0 / 8	ND
PCB-004		ng/kg	54.3 / 113.0	ND	ND	0 / 8	ND
PCB-005		ng/kg	4.6 / 9.5	ND	ND	0 / 8	ND
PCB-006		ng/kg	37.0 / 76.6	ND	ND	0 / 8	ND
PCB-007		ng/kg	50.4 / 105.0	ND	ND	0 / 8	ND
PCB-008		ng/kg		44.7	82.2	8 / 8	59.2
PCB-009		ng/kg	43.0 / 89.2	ND	ND	0 / 8	ND
PCB-010		ng/kg	54.3 / 113.0	ND	ND	0 / 8	ND
PCB-011		ng/kg	348.0 / 721.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	87.4 / 181.0	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	87.4 / 181.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	28.7 / 59.5	ND	ND	0 / 8	ND
PCB-015		ng/kg	54.3 / 113.0	ND	ND	0 / 8	ND
PCB-016		ng/kg	56.8 / 113.0	59.6	64.7	2 / 8	62.2
PCB-017		ng/kg	56.8 / 113.0	61.4	100.0	4 / 8	80.5
PCB-018		ng/kg	114.0 / 225.0	128.0	131.0	2 / 8	129.5
PCB-019		ng/kg	25.0 / 49.5	26.8	26.8	1 / 8	26.8
PCB-020		ng/kg		253.0	790.0	8 / 8	449.5
PCB-021		ng/kg	248.0 / 514.0	ND	ND	0 / 8	ND
PCB-022		ng/kg	167.0 / 347.0	ND	ND	0 / 8	ND
PCB-023		ng/kg	20.9 / 43.2	ND	ND	0 / 8	ND
PCB-024		ng/kg	23.9 / 49.5	ND	ND	0 / 8	ND
PCB-025		ng/kg	19.1 / 39.6	ND	ND	0 / 8	ND
PCB-026		ng/kg	33.6 / 66.7	39.7	42.9	2 / 8	41.3
PCB-027		ng/kg	19.1 / 37.8	22.4	22.4	1 / 8	22.4
PCB-028	CE	ng/kg	224.0 / 464.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	32.2 / 66.7	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-031		ng/kg	252.0 / 523.0	ND	ND	0 / 8	ND
PCB-032		ng/kg	56.8 / 113.0	61.1	84.3	3 / 8	69.4
PCB-033	CE	ng/kg	248.0 / 514.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	19.6 / 40.5	ND	ND	0 / 8	ND
PCB-035		ng/kg	27.0 / 55.9	ND	ND	0 / 8	ND
PCB-036		ng/kg	23.9 / 49.5	ND	ND	0 / 8	ND
PCB-037		ng/kg	84.8 / 176.0	ND	ND	0 / 8	ND
PCB-038		ng/kg	15.7 / 32.4	ND	ND	0 / 8	ND
PCB-039		ng/kg	29.1 / 60.4	ND	ND	0 / 8	ND
PCB-040		ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-041	CE	ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		51.9	254.0	8 / 8	117.1
PCB-043		ng/kg	53.0 / 110.0	ND	ND	0 / 8	ND
PCB-044		ng/kg		203.0	1120.0	8 / 8	477.6
PCB-045		ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-046		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-047	CE	ng/kg	116.0 / 241.0	ND	ND	0 / 8	ND
PCB-048		ng/kg	30.0 / 59.5	32.1	67.3	4 / 8	53.7
PCB-049		ng/kg		171.0	1010.0	8 / 8	397.0
PCB-050		ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-051	CE	ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		177.0	952.0	8 / 8	407.3
PCB-053	CE	ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-055		ng/kg	30.4 / 63.1	ND	ND	0 / 8	ND
PCB-056		ng/kg	75.2 / 156.0	ND	ND	0 / 8	ND
PCB-057		ng/kg	23.0 / 47.7	ND	ND	0 / 8	ND
PCB-058		ng/kg	23.9 / 49.5	ND	ND	0 / 8	ND
PCB-059		ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-060		ng/kg	61.9 / 61.9	76.6	161.0	7 / 8	108.8
PCB-061		ng/kg		223.0	593.0	8 / 8	412.9
PCB-062	CE	ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	25.9 / 51.4	31.3	46.5	3 / 8	37.0
PCB-064		ng/kg	225.0 / 225.0	130.0	672.0	7 / 8	284.0
PCB-065	CE	ng/kg	116.0 / 241.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		208.0	673.0	8 / 8	423.5
PCB-067		ng/kg	29.6 / 61.3	ND	ND	0 / 8	ND
PCB-068		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	61.3 / 127.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	186.0 / 385.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	22.2 / 45.9	ND	ND	0 / 8	ND
PCB-073	CE	ng/kg	53.0 / 110.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	186.0 / 385.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	326.0 / 676.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	186.0 / 385.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	25.7 / 53.2	ND	ND	0 / 8	ND
PCB-078		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	30.4 / 63.1	ND	ND	0 / 8	ND
PCB-080		ng/kg	27.0 / 55.9	ND	ND	0 / 8	ND
PCB-081		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	33.2 / 65.8	34.0	34.0	1 / 8	34.0
PCB-083		ng/kg	75.7 / 157.0	ND	ND	0 / 8	ND
PCB-084		ng/kg	44.5 / 88.3	56.8	56.8	1 / 8	56.8
PCB-085		ng/kg	83.2 / 160.0	85.2	163.0	5 / 8	114.3
PCB-086		ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-087	CE	ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	65.0 / 129.0	75.3	93.2	2 / 8	84.3
PCB-089		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		183.0	565.0	8 / 8	336.6
PCB-091	CE	ng/kg	62.2 / 129.0	ND	ND	0 / 8	ND
PCB-092		ng/kg	81.1 / 81.1	51.5	146.0	7 / 8	80.5
PCB-093		ng/kg	113.0 / 235.0	ND	ND	0 / 8	ND
PCB-094		ng/kg	30.0 / 62.2	ND	ND	0 / 8	ND
PCB-095		ng/kg	123.0 / 243.0	139.0	234.0	3 / 8	187.3
PCB-096		ng/kg	23.0 / 47.7	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-097	CE	ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	113.0 / 235.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		162.0	455.0	8 / 8	267.1
PCB-100	CE	ng/kg	113.0 / 235.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	107.0 / 223.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	113.0 / 235.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	30.9 / 64.0	ND	ND	0 / 8	ND
PCB-104		ng/kg	23.0 / 47.7	ND	ND	0 / 8	ND
PCB-105		ng/kg		104.0	285.0	8 / 8	177.1
PCB-106		ng/kg	43.5 / 90.1	ND	ND	0 / 8	ND
PCB-107		ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	49.5 / 98.2	63.9	63.9	1 / 8	63.9
PCB-110		ng/kg	220.0 / 220.0	231.0	760.0	7 / 8	418.7
PCB-111		ng/kg	31.3 / 64.9	ND	ND	0 / 8	ND
PCB-112		ng/kg	53.9 / 112.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	107.0 / 223.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	25.7 / 53.2	ND	ND	0 / 8	ND
PCB-115	CE	ng/kg	106.0 / 220.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	77.4 / 160.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	77.4 / 160.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		303.0	836.0	8 / 8	522.0
PCB-119	CE	ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	24.8 / 51.4	ND	ND	0 / 8	ND
PCB-122		ng/kg	33.9 / 70.3	ND	ND	0 / 8	ND
PCB-123		ng/kg	41.7 / 86.5	ND	ND	0 / 8	ND
PCB-124	CE	ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	652.0 / 1350.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	33.5 / 69.4	ND	ND	0 / 8	ND
PCB-127		ng/kg	31.7 / 65.8	ND	ND	0 / 8	ND
PCB-128		ng/kg	84.9 / 164.0	104.0	188.0	5 / 8	138.8
PCB-129		ng/kg		748.0	2600.0	8 / 8	1431.8
PCB-130		ng/kg	33.8 / 64.0	36.1	93.5	6 / 8	58.5
PCB-131		ng/kg	31.7 / 65.8	ND	ND	0 / 8	ND
PCB-132		ng/kg	59.6 / 113.0	91.9	264.0	6 / 8	148.7
PCB-133		ng/kg	28.6 / 56.8	40.4	40.4	1 / 8	40.4
PCB-134		ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-135		ng/kg	237.0 / 237.0	149.0	504.0	7 / 8	244.9
PCB-136		ng/kg	31.3 / 64.9	ND	ND	0 / 8	ND
PCB-137		ng/kg	54.5 / 108.0	55.2	55.2	1 / 8	55.2
PCB-138	CE	ng/kg	133.0 / 277.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	81.3 / 168.0	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	81.3 / 168.0	ND	ND	0 / 8	ND
PCB-141		ng/kg	111.0 / 111.0	109.0	356.0	7 / 8	188.7
PCB-142		ng/kg	29.6 / 61.3	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	58.3 / 121.0	ND	ND	0 / 8	ND
PCB-145		ng/kg	27.0 / 55.9	ND	ND	0 / 8	ND
PCB-146		ng/kg		166.0	547.0	8 / 8	287.0
PCB-147		ng/kg	392.0 / 392.0	298.0	1380.0	7 / 8	677.9

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-148		ng/kg	34.3 / 71.2	ND	ND	0 / 8	ND
PCB-149	CE	ng/kg	189.0 / 392.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	25.7 / 53.2	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	114.0 / 237.0	ND	ND	0 / 8	ND
PCB-152		ng/kg	23.9 / 49.5	ND	ND	0 / 8	ND
PCB-153		ng/kg		858.0	2940.0	8 / 8	1538.9
PCB-154		ng/kg	31.3 / 64.9	ND	ND	0 / 8	ND
PCB-155		ng/kg	25.7 / 53.2	ND	ND	0 / 8	ND
PCB-156		ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-157	CE	ng/kg	217.0 / 450.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		61.6	195.0	8 / 8	107.4
PCB-159		ng/kg	27.4 / 56.8	ND	ND	0 / 8	ND
PCB-160		ng/kg	50.4 / 105.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	23.0 / 47.7	ND	ND	0 / 8	ND
PCB-162		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	133.0 / 277.0	ND	ND	0 / 8	ND
PCB-164		ng/kg	55.7 / 105.0	55.9	143.0	6 / 8	83.4
PCB-165		ng/kg	46.1 / 95.5	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	79.0 / 164.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-168	CE	ng/kg	120.0 / 249.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		129.0	364.0	8 / 8	206.3
PCB-171		ng/kg	75.7 / 146.0	80.1	144.0	4 / 8	98.9
PCB-172		ng/kg	42.1 / 81.1	57.0	112.0	5 / 8	73.7
PCB-173	CE	ng/kg	70.4 / 146.0	ND	ND	0 / 8	ND
PCB-174		ng/kg		117.0	444.0	8 / 8	216.8
PCB-175		ng/kg	29.6 / 61.3	ND	ND	0 / 8	ND
PCB-176		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-177		ng/kg		39.3	327.0	8 / 8	147.1
PCB-178		ng/kg	114.0 / 225.0	149.0	149.0	1 / 8	149.0
PCB-179		ng/kg	30.9 / 61.3	37.7	109.0	4 / 8	60.4
PCB-180		ng/kg		501.0	1490.0	8 / 8	816.4
PCB-181		ng/kg	42.2 / 87.4	ND	ND	0 / 8	ND
PCB-182		ng/kg	77.0 / 159.0	ND	ND	0 / 8	ND
PCB-183		ng/kg	173.0 / 173.0	137.0	453.0	7 / 8	240.7
PCB-184		ng/kg	25.7 / 53.2	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	83.5 / 173.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		453.0	1870.0	8 / 8	911.9
PCB-188		ng/kg	16.5 / 34.2	ND	ND	0 / 8	ND
PCB-189		ng/kg	109.0 / 225.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	58.7 / 122.0	ND	ND	0 / 8	ND
PCB-191		ng/kg	28.3 / 58.6	ND	ND	0 / 8	ND
PCB-192		ng/kg	37.4 / 77.5	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	105.0 / 217.0	ND	ND	0 / 8	ND
PCB-194		ng/kg	59.4 / 115.0	95.5	146.0	5 / 8	113.7
PCB-195		ng/kg	67.1 / 133.0	81.8	81.8	1 / 8	81.8
PCB-196		ng/kg	49.3 / 95.1	53.9	102.0	5 / 8	67.2
PCB-197		ng/kg	71.0 / 147.0	ND	ND	0 / 8	ND
PCB-198		ng/kg	145.0 / 145.0	102.0	317.0	7 / 8	174.0
PCB-199	CE	ng/kg	70.2 / 145.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-200	CE	ng/kg	71.0 / 147.0	ND	ND	0 / 8	ND
PCB-201		ng/kg	163.0 / 338.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	59.9 / 124.0	ND	ND	0 / 8	ND
PCB-203		ng/kg		60.8	197.0	8 / 8	109.3
PCB-204		ng/kg	163.0 / 338.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	39.7 / 82.3	ND	ND	0 / 8	ND
PCB-206		ng/kg	43.9 / 91.0	47.2	55.9	2 / 8	51.6
PCB-207		ng/kg	163.0 / 338.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	36.9 / 76.4	ND	ND	0 / 8	ND
PCB-209		ng/kg	163.0 / 338.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Dichloro BP		ng/kg		44.7	82.2	8 / 8	59.2
Trichloro BP		ng/kg		253.0	1010.0	8 / 8	579.6
Tetrachloro BP		ng/kg		1160.0	5370.0	8 / 8	2618.8
Pentachloro BP		ng/kg		1030.0	3690.0	8 / 8	1921.3
Hexachloro BP		ng/kg		1850.0	9300.0	8 / 8	4655.0
Heptachloro BP		ng/kg		1360.0	5460.0	8 / 8	2652.5
Octachloro BP		ng/kg		104.0	844.0	8 / 8	385.1
Nonachloro BP		ng/kg		0.0	55.9	8 / 8	12.9
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		6780.0	24100.0	8 / 8	12888.8
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1248		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1254		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1260		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND

Table A-7. Summary statistics for green sunfish at BLK31

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		9.5	14.3	8 / 8	12.3
Weight, total		g		15.5	61.7	8 / 8	38.8
Weight, fillet		g		5.6	20.9	8 / 8	13.1
PCB-001		ng/kg	6.7 / 20.2	85.9	468.0	2 / 8	277.0
PCB-002		ng/kg	18.0 / 83.6	ND	ND	0 / 8	ND
PCB-003		ng/kg	10.0 / 30.3	53.3	124.0	2 / 8	88.7
PCB-004		ng/kg	23.1 / 70.2	24.9	5570.0	4 / 8	1979.0
PCB-005		ng/kg	1.9 / 9.1	14.4	14.4	1 / 8	14.4
PCB-006		ng/kg	15.7 / 47.8	585.0	784.0	2 / 8	684.5
PCB-007		ng/kg	21.5 / 65.2	100.0	125.0	2 / 8	112.5
PCB-008		ng/kg		46.7	3860.0	8 / 8	941.4
PCB-009		ng/kg	18.3 / 55.6	121.0	170.0	2 / 8	145.5
PCB-010		ng/kg	23.1 / 94.7	267.0	267.0	1 / 8	267.0
PCB-011		ng/kg	449.0 / 690.0	162.0	194.0	5 / 8	177.2
PCB-012		ng/kg	37.2 / 173.0	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	37.2 / 173.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	12.2 / 56.9	ND	ND	0 / 8	ND
PCB-015		ng/kg	23.1 / 70.2	28.0	1520.0	4 / 8	662.3
PCB-016		ng/kg	29.1 / 70.2	43.1	632.0	6 / 8	211.1
PCB-017		ng/kg		51.1	2860.0	8 / 8	745.5
PCB-018		ng/kg		61.5	2110.0	8 / 8	609.7
PCB-019		ng/kg	10.2 / 30.9	14.0	1180.0	5 / 8	370.3
PCB-020		ng/kg		189.0	7970.0	8 / 8	2328.6
PCB-021		ng/kg	106.0 / 320.0	117.0	959.0	4 / 8	513.3
PCB-022		ng/kg	77.0 / 89.5	71.7	1880.0	6 / 8	686.7
PCB-023		ng/kg	8.9 / 41.4	ND	ND	0 / 8	ND
PCB-024		ng/kg	10.2 / 30.9	56.3	57.2	2 / 8	56.8
PCB-025		ng/kg		15.2	1010.0	8 / 8	269.1
PCB-026		ng/kg		30.3	1640.0	8 / 8	428.3
PCB-027		ng/kg	9.8 / 9.8	8.6	523.0	7 / 8	146.3
PCB-028	CE	ng/kg	95.4 / 444.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	13.7 / 63.8	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		138.0	5770.0	8 / 8	1560.1
PCB-032		ng/kg		36.1	2460.0	8 / 8	661.5
PCB-033	CE	ng/kg	106.0 / 491.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	8.3 / 25.3	45.0	45.0	2 / 8	45.0
PCB-035		ng/kg	11.5 / 53.4	ND	ND	0 / 8	ND
PCB-036		ng/kg	10.2 / 47.4	ND	ND	0 / 8	ND
PCB-037		ng/kg	39.0 / 110.0	44.8	830.0	5 / 8	334.6
PCB-038		ng/kg	6.7 / 31.0	ND	ND	0 / 8	ND
PCB-039		ng/kg	12.4 / 57.8	ND	ND	0 / 8	ND
PCB-040		ng/kg	139.0 / 174.0	666.0	2150.0	3 / 8	1435.3
PCB-041	CE	ng/kg	139.0 / 647.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		34.8	1590.0	8 / 8	426.0
PCB-043		ng/kg	22.6 / 68.5	132.0	206.0	2 / 8	169.0
PCB-044		ng/kg		137.0	6050.0	8 / 8	1740.5
PCB-045		ng/kg	92.6 / 281.0	607.0	785.0	2 / 8	696.0
PCB-046		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-047	CE	ng/kg	49.4 / 230.0	ND	ND	0 / 8	ND
PCB-048		ng/kg	13.2 / 13.2	23.8	688.0	7 / 8	204.9

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-049		ng/kg		91.3	5280.0	8 / 8	1536.3
PCB-050		ng/kg	92.6 / 281.0	401.0	559.0	2 / 8	480.0
PCB-051	CE	ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		174.0	5230.0	8 / 8	1881.5
PCB-053	CE	ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-055		ng/kg	13.0 / 39.3	83.2	84.7	2 / 8	84.0
PCB-056		ng/kg		42.4	2190.0	8 / 8	571.5
PCB-057		ng/kg	9.8 / 45.7	ND	ND	0 / 8	ND
PCB-058		ng/kg	10.2 / 47.4	ND	ND	0 / 8	ND
PCB-059		ng/kg	139.0 / 647.0	ND	ND	0 / 8	ND
PCB-060		ng/kg		31.1	1330.0	8 / 8	410.3
PCB-061		ng/kg		174.0	8820.0	8 / 8	2439.1
PCB-062	CE	ng/kg	139.0 / 647.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	10.6 / 13.3	139.0	307.0	3 / 8	218.3
PCB-064		ng/kg		66.0	3600.0	8 / 8	990.9
PCB-065	CE	ng/kg	49.4 / 230.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		96.7	5710.0	8 / 8	1691.2
PCB-067		ng/kg	12.6 / 15.8	64.4	186.0	3 / 8	126.1
PCB-068		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	26.1 / 122.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	79.1 / 368.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	139.0 / 647.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	9.4 / 28.7	53.2	61.6	2 / 8	57.4
PCB-073	CE	ng/kg	22.6 / 105.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	79.1 / 368.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	139.0 / 647.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	79.1 / 368.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	10.9 / 13.7	13.6	349.0	5 / 8	145.9
PCB-078		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	13.0 / 60.3	62.0	62.0	1 / 8	62.0
PCB-080		ng/kg	11.5 / 53.4	ND	ND	0 / 8	ND
PCB-081		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	13.5 / 17.0	154.0	184.0	3 / 8	167.0
PCB-083		ng/kg	32.2 / 150.0	ND	ND	0 / 8	ND
PCB-084		ng/kg	19.6 / 22.8	18.2	205.0	6 / 8	99.4
PCB-085		ng/kg	33.0 / 41.4	49.8	742.0	4 / 8	498.2
PCB-086		ng/kg	278.0 / 349.0	1160.0	1980.0	3 / 8	1486.7
PCB-087	CE	ng/kg	278.0 / 1290.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	26.5 / 33.3	32.0	341.0	4 / 8	241.3
PCB-089		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		107.0	3800.0	8 / 8	1057.8
PCB-091	CE	ng/kg	26.5 / 123.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		19.8	625.0	8 / 8	178.9
PCB-093		ng/kg	48.3 / 225.0	ND	ND	0 / 8	ND
PCB-094		ng/kg	12.8 / 59.5	ND	ND	0 / 8	ND
PCB-095		ng/kg		61.1	1370.0	8 / 8	436.8
PCB-096		ng/kg	9.8 / 45.7	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	278.0 / 1290.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	48.3 / 225.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		49.5	1930.0	8 / 8	650.6

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	48.3 / 225.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	45.7 / 213.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	48.3 / 225.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	13.1 / 61.2	ND	ND	0 / 8	ND
PCB-104		ng/kg	9.8 / 45.7	ND	ND	0 / 8	ND
PCB-105		ng/kg		35.0	1290.0	8 / 8	390.0
PCB-106		ng/kg	18.5 / 86.2	ND	ND	0 / 8	ND
PCB-107		ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	278.0 / 1290.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	20.2 / 25.3	134.0	246.0	3 / 8	178.0
PCB-110		ng/kg		99.1	3610.0	8 / 8	1050.3
PCB-111		ng/kg	13.3 / 62.1	ND	ND	0 / 8	ND
PCB-112		ng/kg	23.0 / 107.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	45.7 / 213.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	10.9 / 13.7	57.3	98.9	3 / 8	78.6
PCB-115	CE	ng/kg	45.2 / 210.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	33.0 / 153.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	33.0 / 153.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		93.2	3660.0	8 / 8	1009.5
PCB-119	CE	ng/kg	278.0 / 1290.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	10.6 / 49.1	ND	ND	0 / 8	ND
PCB-122		ng/kg	14.4 / 67.2	ND	ND	0 / 8	ND
PCB-123		ng/kg	17.8 / 82.8	81.4	81.4	1 / 8	81.4
PCB-124	CE	ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	278.0 / 1290.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	14.3 / 66.4	ND	ND	0 / 8	ND
PCB-127		ng/kg	13.5 / 62.9	ND	ND	0 / 8	ND
PCB-128		ng/kg	33.6 / 138.0	35.7	435.0	3 / 8	213.2
PCB-129		ng/kg		166.0	3960.0	8 / 8	1043.5
PCB-130		ng/kg	13.1 / 53.8	16.3	149.0	3 / 8	77.3
PCB-131		ng/kg	13.5 / 62.9	ND	ND	0 / 8	ND
PCB-132		ng/kg	25.0 / 29.1	26.7	356.0	6 / 8	134.2
PCB-133		ng/kg	11.7 / 54.3	38.4	38.4	1 / 8	38.4
PCB-134		ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-135		ng/kg	48.7 / 61.2	58.6	626.0	5 / 8	322.2
PCB-136		ng/kg	13.3 / 62.1	62.3	62.3	1 / 8	62.3
PCB-137		ng/kg	22.2 / 103.0	148.0	148.0	1 / 8	148.0
PCB-138	CE	ng/kg	56.9 / 265.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	34.6 / 161.0	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	34.6 / 161.0	ND	ND	0 / 8	ND
PCB-141		ng/kg	22.8 / 28.6	32.1	399.0	5 / 8	169.9
PCB-142		ng/kg	12.6 / 58.6	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	24.8 / 116.0	82.7	82.7	1 / 8	82.7
PCB-145		ng/kg	11.5 / 53.4	ND	ND	0 / 8	ND
PCB-146		ng/kg		30.0	549.0	8 / 8	186.9
PCB-147		ng/kg	87.0 / 87.0	103.0	1790.0	7 / 8	625.3
PCB-148		ng/kg	14.6 / 68.1	ND	ND	0 / 8	ND
PCB-149	CE	ng/kg	80.6 / 375.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-150		ng/kg	10.9 / 50.9	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	48.7 / 227.0	ND	ND	0 / 8	ND
PCB-152		ng/kg	10.2 / 47.4	ND	ND	0 / 8	ND
PCB-153		ng/kg		140.0	2660.0	8 / 8	877.6
PCB-154		ng/kg	13.3 / 62.1	ND	ND	0 / 8	ND
PCB-155		ng/kg	10.9 / 50.9	ND	ND	0 / 8	ND
PCB-156		ng/kg	92.6 / 431.0	376.0	376.0	1 / 8	376.0
PCB-157	CE	ng/kg	92.6 / 431.0	ND	ND	0 / 8	ND
PCB-158		ng/kg	12.0 / 12.0	14.5	299.0	7 / 8	86.5
PCB-159		ng/kg	11.7 / 54.3	ND	ND	0 / 8	ND
PCB-160		ng/kg	21.5 / 100.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	9.8 / 45.7	ND	ND	0 / 8	ND
PCB-162		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	56.9 / 265.0	ND	ND	0 / 8	ND
PCB-164		ng/kg	21.7 / 101.0	189.0	189.0	1 / 8	189.0
PCB-165		ng/kg	19.6 / 91.4	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	33.6 / 157.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	46.3 / 216.0	157.0	157.0	1 / 8	157.0
PCB-168	CE	ng/kg	51.1 / 238.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-170		ng/kg	18.6 / 18.6	33.9	357.0	7 / 8	140.5
PCB-171		ng/kg	30.0 / 140.0	102.0	102.0	1 / 8	102.0
PCB-172		ng/kg	16.7 / 77.6	72.1	72.1	1 / 8	72.1
PCB-173	CE	ng/kg	30.0 / 140.0	ND	ND	0 / 8	ND
PCB-174		ng/kg	20.8 / 20.8	25.3	210.0	7 / 8	97.5
PCB-175		ng/kg	12.6 / 58.6	ND	ND	0 / 8	ND
PCB-176		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-177		ng/kg		15.4	170.0	8 / 8	71.4
PCB-178		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-179		ng/kg	12.6 / 58.6	45.9	68.0	2 / 8	57.0
PCB-180		ng/kg		84.0	1090.0	8 / 8	414.8
PCB-181		ng/kg	18.0 / 83.6	ND	ND	0 / 8	ND
PCB-182		ng/kg	32.8 / 153.0	ND	ND	0 / 8	ND
PCB-183		ng/kg	35.6 / 44.7	39.0	251.0	5 / 8	146.0
PCB-184		ng/kg	10.9 / 50.9	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	35.6 / 166.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		118.0	1320.0	8 / 8	501.8
PCB-188		ng/kg	7.0 / 32.8	ND	ND	0 / 8	ND
PCB-189		ng/kg	46.3 / 216.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	25.0 / 116.0	ND	ND	0 / 8	ND
PCB-191		ng/kg	12.0 / 56.0	ND	ND	0 / 8	ND
PCB-192		ng/kg	15.9 / 74.1	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	44.6 / 208.0	ND	ND	0 / 8	ND
PCB-194		ng/kg	23.5 / 110.0	35.2	135.0	3 / 8	70.3
PCB-195		ng/kg	27.4 / 127.0	ND	ND	0 / 8	ND
PCB-196		ng/kg	19.6 / 91.0	22.7	66.1	2 / 8	44.4
PCB-197		ng/kg	30.3 / 141.0	ND	ND	0 / 8	ND
PCB-198		ng/kg	29.9 / 139.0	53.9	237.0	4 / 8	134.2
PCB-199	CE	ng/kg	29.9 / 139.0	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	30.3 / 141.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-201		ng/kg	69.4 / 323.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	25.5 / 119.0	ND	ND	0 / 8	ND
PCB-203		ng/kg	18.9 / 20.5	23.9	129.0	6 / 8	69.3
PCB-204		ng/kg	69.4 / 323.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	16.9 / 78.7	ND	ND	0 / 8	ND
PCB-206		ng/kg	18.7 / 87.1	22.9	61.8	2 / 8	42.4
PCB-207		ng/kg	69.4 / 323.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	15.7 / 73.1	ND	ND	0 / 8	ND
PCB-209		ng/kg	69.4 / 323.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	592.0	8 / 8	91.4
Dichloro BP		ng/kg		78.4	12300.0	8 / 8	2644.1
Trichloro BP		ng/kg		584.0	29300.0	8 / 8	8129.8
Tetrachloro BP		ng/kg		847.0	45200.0	8 / 8	13006.0
Pentachloro BP		ng/kg		465.0	20000.0	8 / 8	5950.6
Hexachloro BP		ng/kg		336.0	12300.0	8 / 8	3384.3
Heptachloro BP		ng/kg		217.0	3560.0	8 / 8	1324.4
Octachloro BP		ng/kg		0.0	567.0	8 / 8	156.5
Nonachloro BP		ng/kg		0.0	61.8	8 / 8	10.6
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		2680.0	109000.0	8 / 8	34750.0

Table A-8. Summary statistics for channel catfish at ICK0.2

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		34.4	55.2	6 / 6	43.6
Weight, total		g		352.0	1443.9	6 / 6	791.9
Weight, fillet		g		108.9	403.4	6 / 6	213.1
Lipid		%		0.4	4.5	6 / 6	2.0
PCB-001		ng/kg		25.3	442.0	6 / 6	167.7
PCB-002		ng/kg	40.8 / 48.5	ND	ND	0 / 6	ND
PCB-003		ng/kg	22.7 / 25.5	28.7	74.4	4 / 6	47.4
PCB-004		ng/kg		235.0	7510.0	6 / 6	2804.2
PCB-005		ng/kg	5.0 / 5.3	17.3	46.7	2 / 6	32.0
PCB-006		ng/kg	40.5 / 40.5	82.6	1670.0	5 / 6	643.7
PCB-007		ng/kg	54.7 / 58.0	82.3	179.0	3 / 6	128.4
PCB-008		ng/kg		129.0	3900.0	6 / 6	1699.8
PCB-009		ng/kg	47.1 / 47.1	59.3	318.0	5 / 6	151.1
PCB-010		ng/kg	59.0 / 59.5	81.5	299.0	4 / 6	172.4
PCB-011		ng/kg	336.0 / 400.0	ND	ND	0 / 6	ND
PCB-012		ng/kg	84.5 / 100.0	ND	ND	0 / 6	ND
PCB-013	CE	ng/kg	84.5 / 100.0	ND	ND	0 / 6	ND
PCB-014		ng/kg	27.7 / 33.0	ND	ND	0 / 6	ND
PCB-015		ng/kg	52.5 / 59.5	60.5	78.7	3 / 6	68.5
PCB-016		ng/kg	59.5 / 59.5	75.1	1550.0	5 / 6	673.0
PCB-017		ng/kg		238.0	5730.0	6 / 6	2798.0
PCB-018		ng/kg		172.0	4990.0	6 / 6	2145.3
PCB-019		ng/kg		68.4	2650.0	6 / 6	1010.6
PCB-020		ng/kg		1460.0	14100.0	6 / 6	7975.0
PCB-021		ng/kg	239.0 / 285.0	312.0	312.0	1 / 6	312.0
PCB-022		ng/kg	183.0 / 183.0	944.0	1690.0	5 / 6	1256.2
PCB-023		ng/kg	20.2 / 24.0	ND	ND	0 / 6	ND
PCB-024		ng/kg	26.2 / 26.2	34.1	112.0	5 / 6	68.6
PCB-025		ng/kg		42.9	458.0	6 / 6	293.8
PCB-026		ng/kg		81.0	1000.0	6 / 6	591.8
PCB-027		ng/kg		31.3	1300.0	6 / 6	493.5
PCB-028	CE	ng/kg	216.0 / 258.0	ND	ND	0 / 6	ND
PCB-029	CE	ng/kg	31.1 / 37.0	ND	ND	0 / 6	ND
PCB-030	CE	ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-031		ng/kg		366.0	2560.0	6 / 6	1676.0
PCB-032		ng/kg		204.0	3700.0	6 / 6	1827.8
PCB-033	CE	ng/kg	239.0 / 285.0	ND	ND	0 / 6	ND
PCB-034		ng/kg	21.4 / 21.4	57.1	82.8	5 / 6	68.9
PCB-035		ng/kg	26.1 / 31.0	ND	ND	0 / 6	ND
PCB-036		ng/kg	23.1 / 27.5	ND	ND	0 / 6	ND
PCB-037		ng/kg	81.9 / 97.5	ND	ND	0 / 6	ND
PCB-038		ng/kg	15.1 / 18.0	22.1	22.1	1 / 6	22.1
PCB-039		ng/kg	28.2 / 33.5	39.5	39.5	1 / 6	39.5
PCB-040		ng/kg	354.0 / 375.0	837.0	2200.0	3 / 6	1732.3
PCB-041	CE	ng/kg	315.0 / 375.0	ND	ND	0 / 6	ND
PCB-042		ng/kg		559.0	4200.0	6 / 6	1823.2
PCB-043		ng/kg	58.1 / 58.1	146.0	404.0	5 / 6	233.8
PCB-044		ng/kg		2840.0	18200.0	6 / 6	7486.7
PCB-045		ng/kg	238.0 / 238.0	521.0	1620.0	5 / 6	962.8
PCB-046		ng/kg	105.0 / 125.0	209.0	366.0	2 / 6	287.5

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-047	CE	ng/kg	112.0 / 134.0	ND	ND	0 / 6	ND
PCB-048		ng/kg		149.0	1290.0	6 / 6	618.5
PCB-049		ng/kg		2090.0	14000.0	6 / 6	5653.3
PCB-050		ng/kg	210.0 / 250.0	435.0	959.0	2 / 6	697.0
PCB-051	CE	ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-052		ng/kg		748.0	9230.0	6 / 6	4563.0
PCB-053	CE	ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-054		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-055		ng/kg		43.6	157.0	6 / 6	73.1
PCB-056		ng/kg		84.0	597.0	6 / 6	307.2
PCB-057		ng/kg	22.3 / 26.5	ND	ND	0 / 6	ND
PCB-058		ng/kg	23.1 / 27.5	30.0	60.0	2 / 6	45.0
PCB-059		ng/kg	354.0 / 375.0	442.0	1680.0	3 / 6	1060.7
PCB-060		ng/kg		874.0	4040.0	6 / 6	1634.8
PCB-061		ng/kg		3030.0	12900.0	6 / 6	5385.0
PCB-062	CE	ng/kg	315.0 / 375.0	ND	ND	0 / 6	ND
PCB-063		ng/kg		194.0	974.0	6 / 6	387.3
PCB-064		ng/kg		1240.0	8680.0	6 / 6	3521.7
PCB-065	CE	ng/kg	112.0 / 134.0	ND	ND	0 / 6	ND
PCB-066		ng/kg		3550.0	17400.0	6 / 6	6925.0
PCB-067		ng/kg	32.4 / 32.4	30.5	66.3	5 / 6	47.0
PCB-068		ng/kg	105.0 / 125.0	154.0	154.0	1 / 6	154.0
PCB-069	CE	ng/kg	59.2 / 70.5	ND	ND	0 / 6	ND
PCB-070	CE	ng/kg	179.0 / 213.0	ND	ND	0 / 6	ND
PCB-071	CE	ng/kg	315.0 / 375.0	ND	ND	0 / 6	ND
PCB-072		ng/kg	21.4 / 25.5	27.3	54.8	3 / 6	37.5
PCB-073	CE	ng/kg	51.3 / 61.0	ND	ND	0 / 6	ND
PCB-074	CE	ng/kg	179.0 / 213.0	ND	ND	0 / 6	ND
PCB-075	CE	ng/kg	315.0 / 375.0	ND	ND	0 / 6	ND
PCB-076	CE	ng/kg	179.0 / 213.0	ND	ND	0 / 6	ND
PCB-077		ng/kg	24.8 / 29.5	30.6	31.7	2 / 6	31.2
PCB-078		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-079		ng/kg	29.4 / 35.0	73.3	73.3	1 / 6	73.3
PCB-080		ng/kg	26.1 / 31.0	ND	ND	0 / 6	ND
PCB-081		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-082		ng/kg	34.4 / 36.5	61.8	512.0	4 / 6	242.5
PCB-083		ng/kg	82.1 / 87.0	90.4	413.0	4 / 6	211.4
PCB-084		ng/kg		65.8	659.0	6 / 6	282.5
PCB-085		ng/kg		501.0	2450.0	6 / 6	1107.7
PCB-086		ng/kg	708.0 / 750.0	1020.0	5110.0	4 / 6	2477.5
PCB-087	CE	ng/kg	630.0 / 750.0	ND	ND	0 / 6	ND
PCB-088		ng/kg		286.0	1860.0	6 / 6	733.0
PCB-089		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-090		ng/kg		1370.0	8010.0	6 / 6	3070.0
PCB-091	CE	ng/kg	60.1 / 71.5	ND	ND	0 / 6	ND
PCB-092		ng/kg		360.0	1850.0	6 / 6	780.5
PCB-093		ng/kg		137.0	855.0	6 / 6	334.2
PCB-094		ng/kg	29.0 / 34.5	53.5	95.9	2 / 6	74.7
PCB-095		ng/kg		152.0	2230.0	6 / 6	954.7
PCB-096		ng/kg	22.3 / 26.5	ND	ND	0 / 6	ND
PCB-097	CE	ng/kg	630.0 / 750.0	ND	ND	0 / 6	ND
PCB-098	CE	ng/kg	110.0 / 130.0	ND	ND	0 / 6	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-099		ng/kg		1280.0	6080.0	6 / 6	2785.0
PCB-100	CE	ng/kg	110.0 / 130.0	ND	ND	0 / 6	ND
PCB-101	CE	ng/kg	104.0 / 123.0	ND	ND	0 / 6	ND
PCB-102	CE	ng/kg	110.0 / 130.0	ND	ND	0 / 6	ND
PCB-103		ng/kg	33.8 / 35.5	33.8	153.0	4 / 6	70.4
PCB-104		ng/kg	22.3 / 26.5	ND	ND	0 / 6	ND
PCB-105		ng/kg		762.0	3250.0	6 / 6	1515.3
PCB-106		ng/kg	42.0 / 50.0	ND	ND	0 / 6	ND
PCB-107		ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-108	CE	ng/kg	630.0 / 750.0	ND	ND	0 / 6	ND
PCB-109		ng/kg	54.5 / 54.5	76.9	685.0	5 / 6	323.8
PCB-110		ng/kg		441.0	9130.0	6 / 6	3402.7
PCB-111		ng/kg	30.3 / 36.0	ND	ND	0 / 6	ND
PCB-112		ng/kg	52.1 / 62.0	ND	ND	0 / 6	ND
PCB-113	CE	ng/kg	104.0 / 123.0	ND	ND	0 / 6	ND
PCB-114		ng/kg		65.8	289.0	6 / 6	141.4
PCB-115	CE	ng/kg	103.0 / 122.0	ND	ND	0 / 6	ND
PCB-116	CE	ng/kg	74.8 / 89.0	ND	ND	0 / 6	ND
PCB-117	CE	ng/kg	74.8 / 89.0	ND	ND	0 / 6	ND
PCB-118		ng/kg		1920.0	7990.0	6 / 6	3928.3
PCB-119	CE	ng/kg	630.0 / 750.0	ND	ND	0 / 6	ND
PCB-120		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-121		ng/kg	23.9 / 28.5	ND	ND	0 / 6	ND
PCB-122		ng/kg	32.8 / 39.0	81.6	81.6	1 / 6	81.6
PCB-123		ng/kg		52.0	219.0	6 / 6	107.0
PCB-124	CE	ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-125	CE	ng/kg	630.0 / 750.0	ND	ND	0 / 6	ND
PCB-126		ng/kg	32.4 / 38.5	ND	ND	0 / 6	ND
PCB-127		ng/kg	30.7 / 36.5	ND	ND	0 / 6	ND
PCB-128		ng/kg		187.0	913.0	6 / 6	454.0
PCB-129		ng/kg		2090.0	14100.0	6 / 6	6645.0
PCB-130		ng/kg	35.5 / 35.5	33.8	496.0	5 / 6	245.8
PCB-131		ng/kg	30.7 / 36.5	68.9	68.9	1 / 6	68.9
PCB-132		ng/kg		62.7	1770.0	6 / 6	603.6
PCB-133		ng/kg		54.5	272.0	6 / 6	132.4
PCB-134		ng/kg	210.0 / 250.0	330.0	330.0	1 / 6	330.0
PCB-135		ng/kg		681.0	3950.0	6 / 6	1679.7
PCB-136		ng/kg	30.3 / 36.0	52.9	126.0	3 / 6	97.6
PCB-137		ng/kg		79.5	239.0	6 / 6	152.6
PCB-138	CE	ng/kg	129.0 / 154.0	ND	ND	0 / 6	ND
PCB-139		ng/kg	78.6 / 93.5	90.4	138.0	2 / 6	114.2
PCB-140	CE	ng/kg	78.6 / 93.5	ND	ND	0 / 6	ND
PCB-141		ng/kg		431.0	1930.0	6 / 6	901.7
PCB-142		ng/kg	28.6 / 34.0	ND	ND	0 / 6	ND
PCB-143	CE	ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-144		ng/kg	63.2 / 67.0	69.5	274.0	4 / 6	138.1
PCB-145		ng/kg	26.1 / 31.0	ND	ND	0 / 6	ND
PCB-146		ng/kg		754.0	3600.0	6 / 6	1854.7
PCB-147		ng/kg		960.0	12100.0	6 / 6	4730.0
PCB-148		ng/kg	33.2 / 39.5	61.7	61.7	1 / 6	61.7

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-149	CE	ng/kg	183.0 / 217.0	ND	ND	0 / 6	ND
PCB-150		ng/kg	24.8 / 29.5	36.3	36.3	1 / 6	36.3
PCB-151	CE	ng/kg	111.0 / 132.0	ND	ND	0 / 6	ND
PCB-152		ng/kg	23.1 / 27.5	ND	ND	0 / 6	ND
PCB-153		ng/kg		3200.0	14500.0	6 / 6	7291.7
PCB-154		ng/kg		59.6	336.0	6 / 6	154.8
PCB-155		ng/kg	24.8 / 29.5	ND	ND	0 / 6	ND
PCB-156		ng/kg	236.0 / 250.0	292.0	672.0	4 / 6	433.8
PCB-157	CE	ng/kg	210.0 / 250.0	ND	ND	0 / 6	ND
PCB-158		ng/kg		206.0	929.0	6 / 6	473.3
PCB-159		ng/kg	26.5 / 31.5	ND	ND	0 / 6	ND
PCB-160		ng/kg	48.7 / 58.0	ND	ND	0 / 6	ND
PCB-161		ng/kg	22.3 / 26.5	ND	ND	0 / 6	ND
PCB-162		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-163	CE	ng/kg	129.0 / 154.0	ND	ND	0 / 6	ND
PCB-164		ng/kg		89.0	946.0	6 / 6	403.7
PCB-165		ng/kg	44.5 / 53.0	ND	ND	0 / 6	ND
PCB-166	CE	ng/kg	76.3 / 90.8	ND	ND	0 / 6	ND
PCB-167		ng/kg	118.0 / 125.0	145.0	334.0	4 / 6	229.0
PCB-168	CE	ng/kg	116.0 / 138.0	ND	ND	0 / 6	ND
PCB-169		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-170		ng/kg		523.0	1980.0	6 / 6	968.7
PCB-171		ng/kg		170.0	760.0	6 / 6	372.2
PCB-172		ng/kg		130.0	522.0	6 / 6	271.3
PCB-173	CE	ng/kg	68.1 / 81.0	ND	ND	0 / 6	ND
PCB-174		ng/kg		476.0	2630.0	6 / 6	1232.5
PCB-175		ng/kg	34.0 / 34.0	32.4	118.0	5 / 6	62.2
PCB-176		ng/kg	105.0 / 125.0	161.0	161.0	1 / 6	161.0
PCB-177		ng/kg		57.4	1830.0	6 / 6	741.7
PCB-178		ng/kg		161.0	776.0	6 / 6	368.0
PCB-179		ng/kg		89.6	508.0	6 / 6	200.8
PCB-180		ng/kg		2020.0	7340.0	6 / 6	3836.7
PCB-181		ng/kg	40.8 / 48.5	ND	ND	0 / 6	ND
PCB-182		ng/kg	74.4 / 88.5	ND	ND	0 / 6	ND
PCB-183		ng/kg		543.0	2280.0	6 / 6	1129.8
PCB-184		ng/kg	24.8 / 29.5	ND	ND	0 / 6	ND
PCB-185	CE	ng/kg	80.7 / 96.0	ND	ND	0 / 6	ND
PCB-186		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-187		ng/kg		2930.0	13400.0	6 / 6	7268.3
PCB-188		ng/kg	16.0 / 19.0	ND	ND	0 / 6	ND
PCB-189		ng/kg	105.0 / 125.0	ND	ND	0 / 6	ND
PCB-190		ng/kg	67.5 / 67.5	65.6	207.0	5 / 6	119.8
PCB-191		ng/kg		33.8	107.0	6 / 6	57.7
PCB-192		ng/kg	36.1 / 43.0	ND	ND	0 / 6	ND
PCB-193	CE	ng/kg	101.0 / 120.0	ND	ND	0 / 6	ND
PCB-194		ng/kg		232.0	695.0	6 / 6	410.2
PCB-195		ng/kg		108.0	432.0	6 / 6	228.2
PCB-196		ng/kg		130.0	459.0	6 / 6	249.3
PCB-197		ng/kg	68.7 / 81.7	123.0	123.0	1 / 6	123.0
PCB-198		ng/kg		367.0	1750.0	6 / 6	931.8
PCB-199	CE	ng/kg	67.8 / 80.7	ND	ND	0 / 6	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-200	CE	ng/kg	68.7 / 81.7	ND	ND	0 / 6	ND
PCB-201		ng/kg	158.0 / 188.0	ND	ND	0 / 6	ND
PCB-202		ng/kg	65.0 / 68.9	85.5	229.0	4 / 6	148.4
PCB-203		ng/kg		213.0	800.0	6 / 6	450.5
PCB-204		ng/kg	158.0 / 188.0	ND	ND	0 / 6	ND
PCB-205		ng/kg	38.4 / 45.7	66.3	70.2	2 / 6	68.3
PCB-206		ng/kg		65.6	297.0	6 / 6	149.6
PCB-207		ng/kg	158.0 / 188.0	ND	ND	0 / 6	ND
PCB-208		ng/kg	35.6 / 42.4	63.8	81.1	2 / 6	72.5
PCB-209		ng/kg	158.0 / 188.0	ND	ND	0 / 6	ND
Monochloro BP		ng/kg		53.9	516.0	6 / 6	199.2
Dichloro BP		ng/kg		364.0	14000.0	6 / 6	5389.0
Trichloro BP		ng/kg		2660.0	36100.0	6 / 6	20576.7
Tetrachloro BP		ng/kg		17300.0	98700.0	6 / 6	41233.3
Pentachloro BP		ng/kg		7810.0	51900.0	6 / 6	21445.0
Hexachloro BP		ng/kg		8860.0	58300.0	6 / 6	26426.7
Heptachloro BP		ng/kg		7160.0	32600.0	6 / 6	16630.0
Octachloro BP		ng/kg		1050.0	4390.0	6 / 6	2410.0
Nonachloro BP		ng/kg		65.6	378.0	6 / 6	173.7
Decachloro BP		ng/kg		0.0	0.0	6 / 6	0.0
Total BPs		ng/kg		64400.0	289000.0	6 / 6	134633.3
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 6	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 6	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 6	ND
PCB-1242		ug/kg	19.6 / 19.6	52.0	96.8	5 / 6	72.1
PCB-1248		ug/kg	19.6 / 19.6	ND	ND	0 / 6	ND
PCB-1254		ug/kg	19.6 / 19.6	38.9	126.0	4 / 6	71.9
PCB-1260		ug/kg	19.6 / 19.6	21.7	72.1	5 / 6	43.1
Total Aroclors		ug/kg		52.9	288.0	6 / 6	143.8

Table A-9. Summary statistics for green sunfish at ICK0.2

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		11.3	14.6	8 / 8	13.0
Weight, total		g		31.8	64.8	8 / 8	46.3
Weight, fillet		g		12.0	21.4	8 / 8	16.4
Lipid		%		0.4	1.3	8 / 8	0.8
PCB-001		ng/kg	34.6 / 34.6	37.3	212.0	7 / 8	107.2
PCB-002		ng/kg	9.7 / 93.3	ND	ND	0 / 8	ND
PCB-003		ng/kg	51.9 / 51.9	21.0	110.0	7 / 8	49.0
PCB-004		ng/kg		289.0	3060.0	8 / 8	1229.9
PCB-005		ng/kg	1.1 / 10.1	18.5	18.5	1 / 8	18.5
PCB-006		ng/kg	81.7 / 81.7	89.0	969.0	7 / 8	299.9
PCB-007		ng/kg	11.6 / 112.0	16.6	146.0	5 / 8	58.7
PCB-008		ng/kg		285.0	6210.0	8 / 8	1889.3
PCB-009		ng/kg	95.2 / 95.2	18.4	175.0	7 / 8	51.3
PCB-010		ng/kg	120.0 / 120.0	19.0	112.0	7 / 8	51.6
PCB-011		ng/kg	769.0 / 769.0	96.6	179.0	7 / 8	124.7
PCB-012		ng/kg	20.1 / 193.0	34.9	64.1	3 / 8	46.1
PCB-013	CE	ng/kg	20.1 / 193.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	6.6 / 63.5	ND	ND	0 / 8	ND
PCB-015		ng/kg		175.0	1220.0	8 / 8	438.8
PCB-016		ng/kg	120.0 / 120.0	74.9	659.0	7 / 8	184.2
PCB-017		ng/kg		209.0	4510.0	8 / 8	1301.6
PCB-018		ng/kg	240.0 / 240.0	388.0	4050.0	7 / 8	1073.3
PCB-019		ng/kg		95.6	1020.0	8 / 8	394.2
PCB-020		ng/kg		1010.0	12100.0	8 / 8	3863.8
PCB-021		ng/kg	548.0 / 548.0	224.0	2320.0	7 / 8	615.3
PCB-022		ng/kg	370.0 / 370.0	333.0	2610.0	7 / 8	921.1
PCB-023		ng/kg	4.8 / 46.2	14.3	14.3	1 / 8	14.3
PCB-024		ng/kg	5.5 / 52.9	14.2	63.5	4 / 8	30.8
PCB-025		ng/kg		84.2	1910.0	8 / 8	520.0
PCB-026		ng/kg		150.0	2770.0	8 / 8	741.0
PCB-027		ng/kg		68.6	676.0	8 / 8	254.9
PCB-028	CE	ng/kg	51.5 / 495.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	7.4 / 71.2	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-031		ng/kg		581.0	9040.0	8 / 8	2540.1
PCB-032		ng/kg		272.0	3720.0	8 / 8	1271.0
PCB-033	CE	ng/kg	57.0 / 548.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	43.3 / 43.3	11.3	77.5	7 / 8	31.7
PCB-035		ng/kg	6.2 / 59.6	ND	ND	0 / 8	ND
PCB-036		ng/kg	5.5 / 52.9	ND	ND	0 / 8	ND
PCB-037		ng/kg	188.0 / 188.0	125.0	489.0	7 / 8	271.1
PCB-038		ng/kg	3.6 / 34.6	10.5	10.5	2 / 8	10.5
PCB-039		ng/kg	11.6 / 64.4	8.3	27.2	5 / 8	16.6
PCB-040		ng/kg	721.0 / 721.0	302.0	2240.0	7 / 8	999.3
PCB-041	CE	ng/kg	75.0 / 721.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		181.0	1650.0	8 / 8	650.6
PCB-043		ng/kg	117.0 / 117.0	38.7	204.0	7 / 8	90.9
PCB-044		ng/kg		874.0	6550.0	8 / 8	3016.3
PCB-045		ng/kg	481.0 / 481.0	169.0	1030.0	7 / 8	467.6
PCB-046		ng/kg	25.0 / 240.0	46.8	81.6	3 / 8	60.3
PCB-047	CE	ng/kg	26.7 / 257.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg		103.0	791.0	8 / 8	297.4
PCB-049		ng/kg		648.0	4700.0	8 / 8	2182.0
PCB-050		ng/kg	481.0 / 481.0	105.0	677.0	7 / 8	285.0
PCB-051	CE	ng/kg	50.0 / 481.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		896.0	5920.0	8 / 8	2608.9
PCB-053	CE	ng/kg	50.0 / 481.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	25.0 / 240.0	33.0	33.0	1 / 8	33.0
PCB-055		ng/kg	12.1 / 67.3	35.0	146.0	5 / 8	80.5
PCB-056		ng/kg		297.0	2500.0	8 / 8	937.5
PCB-057		ng/kg	10.6 / 51.0	9.2	51.1	6 / 8	27.5
PCB-058		ng/kg	5.5 / 52.9	12.6	20.6	3 / 8	17.2
PCB-059		ng/kg	150.0 / 721.0	151.0	684.0	6 / 8	386.5
PCB-060		ng/kg		206.0	1450.0	8 / 8	614.3
PCB-061		ng/kg		1170.0	7600.0	8 / 8	3631.3
PCB-062	CE	ng/kg	75.0 / 721.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	54.8 / 54.8	57.3	397.0	7 / 8	183.7
PCB-064		ng/kg		390.0	3040.0	8 / 8	1329.1
PCB-065	CE	ng/kg	26.7 / 257.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		837.0	6320.0	8 / 8	2474.3
PCB-067		ng/kg	65.4 / 65.4	27.9	223.0	7 / 8	101.9
PCB-068		ng/kg	25.0 / 240.0	38.0	60.2	4 / 8	50.3
PCB-069	CE	ng/kg	14.1 / 136.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	42.7 / 411.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	75.0 / 721.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	10.2 / 49.0	17.3	64.6	6 / 8	41.6
PCB-073	CE	ng/kg	12.2 / 117.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	42.7 / 411.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	75.0 / 721.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	42.7 / 411.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	56.7 / 56.7	61.4	445.0	7 / 8	193.4
PCB-078		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	12.1 / 67.3	7.5	26.6	5 / 8	18.1
PCB-080		ng/kg	6.2 / 59.6	ND	ND	0 / 8	ND
PCB-081		ng/kg	25.0 / 240.0	25.1	25.1	1 / 8	25.1
PCB-082		ng/kg	14.6 / 70.2	60.3	205.0	6 / 8	122.7
PCB-083		ng/kg	17.4 / 167.0	30.3	64.1	5 / 8	51.2
PCB-084		ng/kg	94.2 / 94.2	55.5	285.0	7 / 8	151.8
PCB-085		ng/kg	171.0 / 171.0	141.0	747.0	7 / 8	355.0
PCB-086		ng/kg	1440.0 / 1440.0	316.0	1670.0	7 / 8	811.9
PCB-087	CE	ng/kg	150.0 / 1440.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	137.0 / 137.0	83.0	513.0	7 / 8	268.6
PCB-089		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		532.0	2780.0	8 / 8	1324.1
PCB-091	CE	ng/kg	14.3 / 137.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		104.0	511.0	8 / 8	260.4
PCB-093		ng/kg	52.2 / 251.0	118.0	264.0	6 / 8	188.8
PCB-094		ng/kg	6.9 / 66.3	7.1	19.3	4 / 8	13.7
PCB-095		ng/kg		237.0	1130.0	8 / 8	625.5
PCB-096		ng/kg	5.3 / 51.0	7.0	16.0	3 / 8	11.4
PCB-097	CE	ng/kg	150.0 / 1440.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	26.1 / 251.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		295.0	1920.0	8 / 8	815.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	26.1 / 251.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	24.7 / 237.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	26.1 / 251.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	14.2 / 68.3	22.9	52.3	6 / 8	38.6
PCB-104		ng/kg	5.3 / 51.0	ND	ND	0 / 8	ND
PCB-105		ng/kg		173.0	1040.0	8 / 8	459.9
PCB-106		ng/kg	10.0 / 96.2	ND	ND	0 / 8	ND
PCB-107		ng/kg	50.0 / 481.0	69.0	69.0	1 / 8	69.0
PCB-108	CE	ng/kg	150.0 / 1440.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	105.0 / 105.0	51.0	235.0	7 / 8	113.5
PCB-110		ng/kg		455.0	2780.0	8 / 8	1285.1
PCB-111		ng/kg	7.2 / 69.2	ND	ND	0 / 8	ND
PCB-112		ng/kg	12.4 / 119.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	24.7 / 237.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	56.7 / 56.7	22.7	83.4	7 / 8	45.9
PCB-115	CE	ng/kg	24.4 / 235.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	17.8 / 171.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	17.8 / 171.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		404.0	2580.0	8 / 8	1157.3
PCB-119	CE	ng/kg	150.0 / 1440.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	5.7 / 54.8	6.8	6.8	1 / 8	6.8
PCB-122		ng/kg	7.8 / 75.0	11.0	43.3	4 / 8	25.5
PCB-123		ng/kg	19.2 / 92.3	18.0	59.6	6 / 8	35.2
PCB-124	CE	ng/kg	50.0 / 481.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	150.0 / 1440.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	7.7 / 74.0	ND	ND	0 / 8	ND
PCB-127		ng/kg	7.3 / 70.2	ND	ND	0 / 8	ND
PCB-128		ng/kg	175.0 / 175.0	61.3	127.0	7 / 8	95.3
PCB-129		ng/kg		653.0	1990.0	8 / 8	1328.0
PCB-130		ng/kg	7.1 / 68.3	31.4	59.3	6 / 8	45.9
PCB-131		ng/kg	7.3 / 70.2	ND	ND	0 / 8	ND
PCB-132		ng/kg	120.0 / 120.0	89.5	231.0	7 / 8	164.6
PCB-133		ng/kg	12.6 / 60.6	21.6	52.1	6 / 8	34.3
PCB-134		ng/kg	50.0 / 481.0	52.8	55.6	2 / 8	54.2
PCB-135		ng/kg	253.0 / 253.0	246.0	910.0	7 / 8	478.0
PCB-136		ng/kg	69.2 / 69.2	24.6	78.3	7 / 8	53.3
PCB-137		ng/kg	12.0 / 115.0	21.4	26.7	3 / 8	24.6
PCB-138	CE	ng/kg	30.7 / 295.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	18.7 / 180.0	20.5	27.4	3 / 8	22.8
PCB-140	CE	ng/kg	18.7 / 180.0	ND	ND	0 / 8	ND
PCB-141		ng/kg	118.0 / 118.0	96.4	234.0	7 / 8	160.5
PCB-142		ng/kg	6.8 / 65.4	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	50.0 / 481.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	26.8 / 129.0	21.4	44.2	6 / 8	33.6
PCB-145		ng/kg	6.2 / 59.6	ND	ND	0 / 8	ND
PCB-146		ng/kg		165.0	539.0	8 / 8	332.1
PCB-147		ng/kg		593.0	2140.0	8 / 8	1215.4
PCB-148		ng/kg	7.9 / 76.0	12.8	19.0	2 / 8	15.9
PCB-149	CE	ng/kg	43.5 / 418.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	5.9 / 56.7	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	26.3 / 253.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-152		ng/kg	5.5 / 52.9	ND	ND	0 / 8	ND
PCB-153		ng/kg		508.0	1680.0	8 / 8	1128.8
PCB-154		ng/kg	14.4 / 69.2	35.2	87.2	6 / 8	56.0
PCB-155		ng/kg	10.2 / 56.7	6.5	10.4	5 / 8	8.6
PCB-156		ng/kg	86.2 / 481.0	56.2	105.0	5 / 8	89.3
PCB-157	CE	ng/kg	50.0 / 481.0	ND	ND	0 / 8	ND
PCB-158		ng/kg	57.7 / 57.7	58.2	109.0	7 / 8	83.9
PCB-159		ng/kg	6.3 / 60.6	ND	ND	0 / 8	ND
PCB-160		ng/kg	11.6 / 112.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	5.3 / 51.0	ND	ND	0 / 8	ND
PCB-162		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	30.7 / 295.0	ND	ND	0 / 8	ND
PCB-164		ng/kg	113.0 / 113.0	43.7	129.0	7 / 8	81.2
PCB-165		ng/kg	10.6 / 102.0	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	18.2 / 175.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	25.0 / 240.0	34.5	44.3	4 / 8	40.9
PCB-168	CE	ng/kg	27.6 / 265.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		103.0	330.0	8 / 8	222.1
PCB-171		ng/kg	156.0 / 156.0	56.5	120.0	7 / 8	83.1
PCB-172		ng/kg	86.5 / 86.5	31.9	81.7	7 / 8	54.1
PCB-173	CE	ng/kg	16.2 / 156.0	ND	ND	0 / 8	ND
PCB-174		ng/kg	100.0 / 100.0	128.0	478.0	7 / 8	246.6
PCB-175		ng/kg	6.8 / 65.4	8.0	14.2	3 / 8	12.0
PCB-176		ng/kg	25.0 / 240.0	25.4	34.0	3 / 8	28.8
PCB-177		ng/kg		77.7	327.0	8 / 8	168.7
PCB-178		ng/kg	240.0 / 240.0	50.9	152.0	7 / 8	86.4
PCB-179		ng/kg	65.4 / 65.4	40.6	160.0	7 / 8	79.3
PCB-180		ng/kg		329.0	1190.0	8 / 8	739.3
PCB-181		ng/kg	9.7 / 93.3	ND	ND	0 / 8	ND
PCB-182		ng/kg	17.7 / 170.0	ND	ND	0 / 8	ND
PCB-183		ng/kg	185.0 / 185.0	122.0	297.0	7 / 8	193.9
PCB-184		ng/kg	5.9 / 56.7	6.0	9.2	3 / 8	7.7
PCB-185	CE	ng/kg	19.2 / 185.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		722.0	2970.0	8 / 8	1540.6
PCB-188		ng/kg	3.8 / 36.5	ND	ND	0 / 8	ND
PCB-189		ng/kg	25.0 / 240.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	130.0 / 130.0	38.6	85.8	7 / 8	58.3
PCB-191		ng/kg	6.5 / 62.5	9.4	16.7	3 / 8	13.4
PCB-192		ng/kg	8.6 / 82.7	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	24.1 / 232.0	ND	ND	0 / 8	ND
PCB-194		ng/kg	122.0 / 122.0	67.9	151.0	7 / 8	100.5
PCB-195		ng/kg	142.0 / 142.0	38.5	75.0	7 / 8	51.5
PCB-196		ng/kg	102.0 / 102.0	35.3	74.8	7 / 8	53.3
PCB-197		ng/kg	16.3 / 157.0	17.2	25.7	3 / 8	20.2
PCB-198		ng/kg	155.0 / 155.0	115.0	385.0	7 / 8	194.6
PCB-199	CE	ng/kg	16.1 / 155.0	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	16.3 / 157.0	ND	ND	0 / 8	ND
PCB-201		ng/kg	37.5 / 361.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	23.8 / 132.0	20.7	48.0	5 / 8	30.3
PCB-203		ng/kg	98.4 / 98.4	64.3	160.0	7 / 8	98.4

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-204		ng/kg	37.5 / 361.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	9.1 / 87.8	14.2	14.2	1 / 8	14.2
PCB-206		ng/kg	10.1 / 97.1	26.9	32.7	2 / 8	29.8
PCB-207		ng/kg	37.5 / 361.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	8.5 / 81.5	10.5	10.5	1 / 8	10.5
PCB-209		ng/kg	37.5 / 361.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	286.0	8 / 8	136.7
Dichloro BP		ng/kg		750.0	11300.0	8 / 8	4070.0
Trichloro BP		ng/kg		2470.0	46100.0	8 / 8	13635.0
Tetrachloro BP		ng/kg		5630.0	43200.0	8 / 8	20227.5
Pentachloro BP		ng/kg		2240.0	17000.0	8 / 8	7811.3
Hexachloro BP		ng/kg		1920.0	8530.0	8 / 8	5226.3
Heptachloro BP		ng/kg		1230.0	6240.0	8 / 8	3395.0
Octachloro BP		ng/kg		0.0	933.0	8 / 8	464.0
Nonachloro BP		ng/kg		0.0	43.2	8 / 8	8.8
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		14200.0	123000.0	8 / 8	54925.0
PCB-1016		ug/kg	28.7 / 80.8	ND	ND	0 / 8	ND
PCB-1221		ug/kg	28.7 / 80.8	ND	ND	0 / 8	ND
PCB-1232		ug/kg	28.7 / 80.8	ND	ND	0 / 8	ND
PCB-1242		ug/kg	44.9 / 80.8	48.8	168.0	6 / 8	78.5
PCB-1248		ug/kg	28.7 / 80.8	ND	ND	0 / 8	ND
PCB-1254		ug/kg	28.7 / 80.8	108.0	108.0	1 / 8	108.0
PCB-1260		ug/kg	28.7 / 80.8	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	44.9 / 80.8	48.8	276.0	6 / 8	96.5

Table A-10. Summary statistics for channel catfish at ICK1.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		30.8	47.6	8 / 8	38.6
Weight, total		g		232.0	1051.7	8 / 8	534.3
Weight, fillet		g		82.6	335.7	8 / 8	181.5
Lipid		%		1.1	3.9	8 / 8	2.8
PCB-001		ng/kg	16.2 / 34.6	89.8	399.0	2 / 8	244.4
PCB-002		ng/kg	43.7 / 93.3	ND	ND	0 / 8	ND
PCB-003		ng/kg	24.3 / 51.9	78.4	78.4	1 / 8	78.4
PCB-004		ng/kg	120.0 / 120.0	65.5	9690.0	7 / 8	1740.5
PCB-005		ng/kg	4.7 / 10.1	ND	ND	0 / 8	ND
PCB-006		ng/kg	38.3 / 81.7	209.0	1580.0	2 / 8	894.5
PCB-007		ng/kg	52.3 / 112.0	298.0	298.0	1 / 8	298.0
PCB-008		ng/kg		53.0	5000.0	8 / 8	733.5
PCB-009		ng/kg	44.6 / 95.2	455.0	455.0	1 / 8	455.0
PCB-010		ng/kg	56.3 / 120.0	333.0	333.0	1 / 8	333.0
PCB-011		ng/kg	360.0 / 769.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	90.5 / 193.0	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	90.5 / 193.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	29.7 / 63.5	ND	ND	0 / 8	ND
PCB-015		ng/kg	56.3 / 120.0	110.0	110.0	1 / 8	110.0
PCB-016		ng/kg	56.3 / 120.0	68.8	2140.0	4 / 8	621.2
PCB-017		ng/kg		105.0	7010.0	8 / 8	1130.6
PCB-018		ng/kg	120.0 / 240.0	134.0	6410.0	6 / 8	1308.7
PCB-019		ng/kg		44.9	3570.0	8 / 8	585.2
PCB-020		ng/kg		382.0	18900.0	8 / 8	3472.0
PCB-021		ng/kg	257.0 / 548.0	305.0	305.0	1 / 8	305.0
PCB-022		ng/kg	173.0 / 370.0	575.0	2930.0	2 / 8	1752.5
PCB-023		ng/kg	21.6 / 46.2	ND	ND	0 / 8	ND
PCB-024		ng/kg	24.8 / 52.9	ND	ND	0 / 8	ND
PCB-025		ng/kg	19.8 / 42.3	103.0	1360.0	2 / 8	731.5
PCB-026		ng/kg	35.6 / 71.2	37.1	2450.0	5 / 8	575.0
PCB-027		ng/kg	20.2 / 40.4	21.1	1710.0	5 / 8	527.0
PCB-028	CE	ng/kg	232.0 / 495.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	33.3 / 71.2	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-031		ng/kg	261.0 / 558.0	726.0	7430.0	2 / 8	4078.0
PCB-032		ng/kg		89.0	5050.0	8 / 8	906.6
PCB-033	CE	ng/kg	257.0 / 548.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	20.3 / 43.3	54.3	137.0	2 / 8	95.7
PCB-035		ng/kg	27.9 / 59.6	ND	ND	0 / 8	ND
PCB-036		ng/kg	24.8 / 52.9	ND	ND	0 / 8	ND
PCB-037		ng/kg	87.8 / 188.0	ND	ND	0 / 8	ND
PCB-038		ng/kg	16.2 / 34.6	24.8	24.8	1 / 8	24.8
PCB-039		ng/kg	30.2 / 64.4	46.5	46.5	1 / 8	46.5
PCB-040		ng/kg	338.0 / 721.0	903.0	2500.0	2 / 8	1701.5
PCB-041	CE	ng/kg	338.0 / 721.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		87.5	3740.0	8 / 8	893.4
PCB-043		ng/kg	55.0 / 117.0	329.0	435.0	2 / 8	382.0
PCB-044		ng/kg		495.0	17300.0	8 / 8	4837.5
PCB-045		ng/kg	225.0 / 481.0	744.0	1960.0	2 / 8	1352.0
PCB-046		ng/kg	113.0 / 240.0	448.0	448.0	1 / 8	448.0
PCB-047	CE	ng/kg	120.0 / 257.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg	31.7 / 31.7	40.7	1440.0	7 / 8	346.9
PCB-049		ng/kg		315.0	11100.0	8 / 8	3187.1
PCB-050		ng/kg	225.0 / 481.0	1230.0	1230.0	1 / 8	1230.0
PCB-051	CE	ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		365.0	11600.0	8 / 8	2861.0
PCB-053	CE	ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-055		ng/kg	31.5 / 67.3	ND	ND	0 / 8	ND
PCB-056		ng/kg	77.9 / 166.0	223.0	616.0	2 / 8	419.5
PCB-057		ng/kg	23.9 / 51.0	ND	ND	0 / 8	ND
PCB-058		ng/kg	24.8 / 52.9	48.3	48.3	1 / 8	48.3
PCB-059		ng/kg	338.0 / 721.0	1400.0	1650.0	2 / 8	1525.0
PCB-060		ng/kg		75.8	3460.0	8 / 8	906.2
PCB-061		ng/kg		335.0	11700.0	8 / 8	3092.6
PCB-062	CE	ng/kg	338.0 / 721.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	25.7 / 28.5	35.4	790.0	5 / 8	332.4
PCB-064		ng/kg		196.0	8110.0	8 / 8	2219.8
PCB-065	CE	ng/kg	120.0 / 257.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		317.0	14500.0	8 / 8	4054.0
PCB-067		ng/kg	30.6 / 65.4	108.0	108.0	1 / 8	108.0
PCB-068		ng/kg	113.0 / 240.0	116.0	116.0	1 / 8	116.0
PCB-069	CE	ng/kg	63.5 / 136.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	192.0 / 411.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	338.0 / 721.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	23.0 / 49.0	55.0	55.0	1 / 8	55.0
PCB-073	CE	ng/kg	55.0 / 117.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	192.0 / 411.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	338.0 / 721.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	192.0 / 411.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	26.6 / 56.7	72.6	72.6	1 / 8	72.6
PCB-078		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	31.5 / 67.3	45.8	45.8	1 / 8	45.8
PCB-080		ng/kg	27.9 / 59.6	ND	ND	0 / 8	ND
PCB-081		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	32.9 / 70.2	42.3	371.0	5 / 8	164.3
PCB-083		ng/kg	78.4 / 167.0	287.0	387.0	2 / 8	337.0
PCB-084		ng/kg	44.1 / 47.1	75.8	701.0	6 / 8	248.2
PCB-085		ng/kg		116.0	3120.0	8 / 8	801.3
PCB-086		ng/kg	676.0 / 1440.0	3540.0	5160.0	2 / 8	4350.0
PCB-087	CE	ng/kg	676.0 / 1440.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	64.4 / 64.4	153.0	2110.0	7 / 8	649.1
PCB-089		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		495.0	10100.0	8 / 8	3018.1
PCB-091	CE	ng/kg	64.4 / 137.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		105.0	2620.0	8 / 8	715.3
PCB-093		ng/kg	118.0 / 118.0	155.0	918.0	7 / 8	384.4
PCB-094		ng/kg	31.1 / 66.3	83.4	95.0	2 / 8	89.2
PCB-095		ng/kg		164.0	2600.0	8 / 8	829.3
PCB-096		ng/kg	23.9 / 51.0	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	676.0 / 1440.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	118.0 / 251.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		358.0	7860.0	8 / 8	2194.1

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	118.0 / 251.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	111.0 / 237.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	118.0 / 251.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	32.0 / 68.3	43.8	168.0	3 / 8	108.9
PCB-104		ng/kg	23.9 / 51.0	ND	ND	0 / 8	ND
PCB-105		ng/kg		244.0	4060.0	8 / 8	1178.0
PCB-106		ng/kg	45.0 / 96.2	ND	ND	0 / 8	ND
PCB-107		ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	676.0 / 1440.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	54.5 / 54.5	51.0	896.0	7 / 8	274.9
PCB-110		ng/kg		465.0	12400.0	8 / 8	3187.5
PCB-111		ng/kg	32.4 / 69.2	ND	ND	0 / 8	ND
PCB-112		ng/kg	55.9 / 119.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	111.0 / 237.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	26.6 / 29.5	33.7	328.0	5 / 8	148.8
PCB-115	CE	ng/kg	110.0 / 235.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	80.2 / 171.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	80.2 / 171.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		712.0	10500.0	8 / 8	3126.6
PCB-119	CE	ng/kg	676.0 / 1440.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	25.7 / 54.8	ND	ND	0 / 8	ND
PCB-122		ng/kg	35.1 / 75.0	75.7	75.7	1 / 8	75.7
PCB-123		ng/kg	43.2 / 92.3	192.0	278.0	2 / 8	235.0
PCB-124	CE	ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	676.0 / 1440.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	34.7 / 74.0	ND	ND	0 / 8	ND
PCB-127		ng/kg	32.9 / 70.2	ND	ND	0 / 8	ND
PCB-128		ng/kg		121.0	1080.0	8 / 8	420.8
PCB-129		ng/kg		1810.0	19400.0	8 / 8	6920.0
PCB-130		ng/kg		60.7	592.0	8 / 8	207.0
PCB-131		ng/kg	32.9 / 70.2	54.1	54.1	1 / 8	54.1
PCB-132		ng/kg		64.0	1790.0	8 / 8	645.9
PCB-133		ng/kg	28.4 / 28.4	65.4	391.0	7 / 8	158.0
PCB-134		ng/kg	225.0 / 481.0	257.0	257.0	1 / 8	257.0
PCB-135		ng/kg		291.0	5350.0	8 / 8	1806.9
PCB-136		ng/kg	32.4 / 34.6	59.9	127.0	6 / 8	91.5
PCB-137		ng/kg	54.0 / 60.0	61.9	341.0	5 / 8	175.2
PCB-138	CE	ng/kg	138.0 / 295.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	84.2 / 180.0	120.0	201.0	2 / 8	160.5
PCB-140	CE	ng/kg	84.2 / 180.0	ND	ND	0 / 8	ND
PCB-141		ng/kg		272.0	2410.0	8 / 8	1001.5
PCB-142		ng/kg	30.6 / 65.4	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	60.4 / 129.0	111.0	267.0	3 / 8	194.3
PCB-145		ng/kg	27.9 / 59.6	ND	ND	0 / 8	ND
PCB-146		ng/kg		430.0	5560.0	8 / 8	1920.5
PCB-147		ng/kg		875.0	16400.0	8 / 8	5105.6
PCB-148		ng/kg	35.6 / 76.0	38.7	103.0	3 / 8	68.0
PCB-149	CE	ng/kg	196.0 / 418.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	26.6 / 56.7	28.4	28.4	1 / 8	28.4
PCB-151	CE	ng/kg	118.0 / 253.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-152		ng/kg	24.8 / 52.9	ND	ND	0 / 8	ND
PCB-153		ng/kg		2040.0	16200.0	8 / 8	6875.0
PCB-154		ng/kg	32.4 / 32.4	87.0	497.0	7 / 8	201.2
PCB-155		ng/kg	26.6 / 56.7	ND	ND	0 / 8	ND
PCB-156		ng/kg	225.0 / 481.0	272.0	1130.0	3 / 8	672.7
PCB-157	CE	ng/kg	225.0 / 481.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		128.0	1090.0	8 / 8	435.9
PCB-159		ng/kg	28.4 / 60.6	ND	ND	0 / 8	ND
PCB-160		ng/kg	52.3 / 112.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	23.9 / 51.0	ND	ND	0 / 8	ND
PCB-162		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	138.0 / 295.0	ND	ND	0 / 8	ND
PCB-164		ng/kg		109.0	1240.0	8 / 8	428.4
PCB-165		ng/kg	47.7 / 102.0	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	81.8 / 175.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	113.0 / 240.0	137.0	508.0	3 / 8	315.0
PCB-168	CE	ng/kg	124.0 / 265.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		309.0	2760.0	8 / 8	1112.3
PCB-171		ng/kg		96.6	978.0	8 / 8	386.7
PCB-172		ng/kg		89.0	745.0	8 / 8	284.4
PCB-173	CE	ng/kg	73.0 / 156.0	ND	ND	0 / 8	ND
PCB-174		ng/kg		327.0	3740.0	8 / 8	1325.8
PCB-175		ng/kg	30.6 / 65.4	46.2	118.0	4 / 8	74.0
PCB-176		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-177		ng/kg		62.8	2290.0	8 / 8	765.4
PCB-178		ng/kg	113.0 / 113.0	147.0	979.0	7 / 8	395.7
PCB-179		ng/kg		42.0	503.0	8 / 8	201.1
PCB-180		ng/kg		1230.0	11000.0	8 / 8	4181.3
PCB-181		ng/kg	43.7 / 93.3	ND	ND	0 / 8	ND
PCB-182		ng/kg	79.7 / 170.0	ND	ND	0 / 8	ND
PCB-183		ng/kg		324.0	2860.0	8 / 8	1130.6
PCB-184		ng/kg	26.6 / 56.7	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	86.5 / 185.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		1460.0	24400.0	8 / 8	7276.3
PCB-188		ng/kg	17.1 / 36.5	ND	ND	0 / 8	ND
PCB-189		ng/kg	113.0 / 240.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	60.8 / 130.0	88.0	398.0	4 / 8	202.0
PCB-191		ng/kg	29.3 / 32.5	45.7	124.0	5 / 8	78.3
PCB-192		ng/kg	38.7 / 82.7	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	109.0 / 232.0	ND	ND	0 / 8	ND
PCB-194		ng/kg		161.0	1210.0	8 / 8	477.8
PCB-195		ng/kg		79.9	606.0	8 / 8	248.7
PCB-196		ng/kg		88.7	777.0	8 / 8	295.0
PCB-197		ng/kg	73.6 / 157.0	ND	ND	0 / 8	ND
PCB-198		ng/kg		270.0	3290.0	8 / 8	976.9
PCB-199	CE	ng/kg	72.7 / 155.0	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	73.6 / 157.0	ND	ND	0 / 8	ND
PCB-201		ng/kg	169.0 / 361.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	62.1 / 132.0	73.7	308.0	4 / 8	160.7
PCB-203		ng/kg		157.0	1390.0	8 / 8	504.9

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-204		ng/kg	169.0 / 361.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	41.1 / 87.8	46.2	105.0	3 / 8	69.6
PCB-206		ng/kg	97.1 / 97.1	58.6	362.0	7 / 8	141.0
PCB-207		ng/kg	169.0 / 361.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	38.2 / 81.5	63.1	101.0	2 / 8	82.1
PCB-209		ng/kg	169.0 / 361.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	478.0	8 / 8	71.0
Dichloro BP		ng/kg		94.0	17500.0	8 / 8	2633.6
Trichloro BP		ng/kg		745.0	59500.0	8 / 8	9789.6
Tetrachloro BP		ng/kg		2470.0	93100.0	8 / 8	24188.8
Pentachloro BP		ng/kg		2710.0	63800.0	8 / 8	17880.0
Hexachloro BP		ng/kg		6270.0	74700.0	8 / 8	26821.3
Heptachloro BP		ng/kg		4080.0	50900.0	8 / 8	17187.5
Octachloro BP		ng/kg		757.0	7690.0	8 / 8	2609.3
Nonachloro BP		ng/kg		0.0	463.0	8 / 8	143.9
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		17400.0	296000.0	8 / 8	101275.0
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg	19.6 / 19.6	195.0	195.0	1 / 8	195.0
PCB-1248		ug/kg	19.6 / 19.6	41.6	251.0	2 / 8	146.3
PCB-1254		ug/kg	19.6 / 19.6	32.2	186.0	3 / 8	119.4
PCB-1260		ug/kg	19.6 / 19.6	30.7	112.0	6 / 8	55.9
Total Aroclors		ug/kg	19.6 / 19.6	30.7	549.0	6 / 8	196.9

Table A-11. Summary statistics for green sunfish at ICK1.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		12.1	14.5	8 / 8	12.7
Weight, total		g		32.2	65.4	8 / 8	40.3
Weight, fillet		g		12.0	26.1	8 / 8	15.7
Lipid		%		0.5	0.9	8 / 8	0.8
PCB-001		ng/kg	3.6 / 6.6	3.7	8.6	5 / 8	5.3
PCB-002		ng/kg	9.5 / 17.6	15.1	15.1	1 / 8	15.1
PCB-003		ng/kg	7.1 / 7.1	6.2	21.0	7 / 8	9.7
PCB-004		ng/kg	12.5 / 12.5	24.0	39.3	7 / 8	31.1
PCB-005		ng/kg	1.0 / 1.9	ND	ND	0 / 8	ND
PCB-006		ng/kg	8.3 / 15.5	ND	ND	0 / 8	ND
PCB-007		ng/kg	11.4 / 21.1	ND	ND	0 / 8	ND
PCB-008		ng/kg		34.2	50.6	8 / 8	43.7
PCB-009		ng/kg	9.7 / 18.0	ND	ND	0 / 8	ND
PCB-010		ng/kg	12.3 / 22.7	ND	ND	0 / 8	ND
PCB-011		ng/kg		100.0	215.0	8 / 8	137.0
PCB-012		ng/kg	19.7 / 36.5	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	19.7 / 36.5	ND	ND	0 / 8	ND
PCB-014		ng/kg	6.5 / 12.0	ND	ND	0 / 8	ND
PCB-015		ng/kg		19.2	41.0	8 / 8	25.1
PCB-016		ng/kg		27.9	46.6	8 / 8	36.3
PCB-017		ng/kg		39.8	68.9	8 / 8	56.3
PCB-018		ng/kg		61.7	98.8	8 / 8	83.5
PCB-019		ng/kg	5.5 / 8.0	19.0	29.6	6 / 8	26.3
PCB-020		ng/kg		188.0	285.0	8 / 8	251.6
PCB-021		ng/kg	82.6 / 82.6	71.6	120.0	7 / 8	90.8
PCB-022		ng/kg	55.8 / 55.8	60.8	86.8	7 / 8	73.0
PCB-023		ng/kg	4.7 / 8.7	ND	ND	0 / 8	ND
PCB-024		ng/kg	5.4 / 10.0	ND	ND	0 / 8	ND
PCB-025		ng/kg		12.7	22.2	8 / 8	18.0
PCB-026		ng/kg		28.5	40.5	8 / 8	35.5
PCB-027		ng/kg	4.2 / 7.6	7.7	10.8	5 / 8	9.1
PCB-028	CE	ng/kg	50.5 / 93.6	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	7.3 / 13.5	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-031		ng/kg		131.0	197.0	8 / 8	169.9
PCB-032		ng/kg		40.5	67.5	8 / 8	58.7
PCB-033	CE	ng/kg	55.9 / 104.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	4.4 / 8.2	ND	ND	0 / 8	ND
PCB-035		ng/kg	6.1 / 11.3	ND	ND	0 / 8	ND
PCB-036		ng/kg	5.4 / 10.0	ND	ND	0 / 8	ND
PCB-037		ng/kg	28.3 / 28.3	30.1	64.9	7 / 8	42.3
PCB-038		ng/kg	3.5 / 6.6	ND	ND	0 / 8	ND
PCB-039		ng/kg	6.6 / 12.2	ND	ND	0 / 8	ND
PCB-040		ng/kg	73.5 / 136.0	76.1	76.1	1 / 8	76.1
PCB-041	CE	ng/kg	73.5 / 136.0	ND	ND	0 / 8	ND
PCB-042		ng/kg	10.1 / 10.1	36.5	60.9	7 / 8	48.0
PCB-043		ng/kg	12.0 / 22.2	16.7	16.7	1 / 8	16.7
PCB-044		ng/kg		293.0	478.0	8 / 8	415.9
PCB-045		ng/kg	72.5 / 72.5	63.4	117.0	7 / 8	90.0
PCB-046		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-047	CE	ng/kg	26.2 / 48.5	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg		21.7	39.6	8 / 8	28.9
PCB-049		ng/kg		163.0	285.0	8 / 8	227.8
PCB-050		ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-051	CE	ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-052		ng/kg		241.0	403.0	8 / 8	345.9
PCB-053	CE	ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-054		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-055		ng/kg	6.9 / 12.7	ND	ND	0 / 8	ND
PCB-056		ng/kg		46.4	79.3	8 / 8	60.0
PCB-057		ng/kg	5.2 / 9.6	ND	ND	0 / 8	ND
PCB-058		ng/kg	5.4 / 10.0	ND	ND	0 / 8	ND
PCB-059		ng/kg	73.5 / 136.0	ND	ND	0 / 8	ND
PCB-060		ng/kg		34.6	73.4	8 / 8	48.5
PCB-061		ng/kg		233.0	439.0	8 / 8	319.6
PCB-062	CE	ng/kg	73.5 / 136.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	5.6 / 10.4	9.2	16.2	4 / 8	11.3
PCB-064		ng/kg		67.9	123.0	8 / 8	90.0
PCB-065	CE	ng/kg	26.2 / 48.5	ND	ND	0 / 8	ND
PCB-066		ng/kg		121.0	290.0	8 / 8	171.0
PCB-067		ng/kg	6.7 / 12.4	ND	ND	0 / 8	ND
PCB-068		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	13.8 / 25.6	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	41.9 / 77.6	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	73.5 / 136.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	5.0 / 9.3	ND	ND	0 / 8	ND
PCB-073	CE	ng/kg	12.0 / 22.2	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	41.9 / 77.6	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	73.5 / 136.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	41.9 / 77.6	ND	ND	0 / 8	ND
PCB-077		ng/kg		10.1	18.7	8 / 8	14.3
PCB-078		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-079		ng/kg	6.9 / 12.7	ND	ND	0 / 8	ND
PCB-080		ng/kg	6.1 / 11.3	ND	ND	0 / 8	ND
PCB-081		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-082		ng/kg		14.8	26.7	8 / 8	20.7
PCB-083		ng/kg	17.1 / 31.6	ND	ND	0 / 8	ND
PCB-084		ng/kg		21.5	42.1	8 / 8	33.7
PCB-085		ng/kg	25.8 / 25.8	60.4	94.9	7 / 8	74.0
PCB-086		ng/kg	203.0 / 273.0	199.0	233.0	5 / 8	214.2
PCB-087	CE	ng/kg	147.0 / 273.0	ND	ND	0 / 8	ND
PCB-088		ng/kg		47.6	81.8	8 / 8	69.9
PCB-089		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-090		ng/kg		351.0	618.0	8 / 8	507.8
PCB-091	CE	ng/kg	14.0 / 26.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		57.2	125.0	8 / 8	91.0
PCB-093		ng/kg		71.9	117.0	8 / 8	91.1
PCB-094		ng/kg	6.8 / 12.5	ND	ND	0 / 8	ND
PCB-095		ng/kg		119.0	263.0	8 / 8	204.5
PCB-096		ng/kg	5.2 / 9.6	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	147.0 / 273.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	25.6 / 47.5	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-099		ng/kg		159.0	295.0	8 / 8	226.0
PCB-100	CE	ng/kg	25.6 / 47.5	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	24.2 / 44.9	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	25.6 / 47.5	ND	ND	0 / 8	ND
PCB-103		ng/kg		16.4	25.6	8 / 8	22.2
PCB-104		ng/kg	5.2 / 9.6	ND	ND	0 / 8	ND
PCB-105		ng/kg		87.1	163.0	8 / 8	115.8
PCB-106		ng/kg	9.8 / 18.2	ND	ND	0 / 8	ND
PCB-107		ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	147.0 / 273.0	ND	ND	0 / 8	ND
PCB-109		ng/kg		16.5	34.2	8 / 8	24.6
PCB-110		ng/kg		278.0	466.0	8 / 8	382.8
PCB-111		ng/kg	7.1 / 13.1	ND	ND	0 / 8	ND
PCB-112		ng/kg	12.2 / 22.5	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	24.2 / 44.9	ND	ND	0 / 8	ND
PCB-114		ng/kg	7.9 / 10.7	7.7	12.6	4 / 8	9.7
PCB-115	CE	ng/kg	23.9 / 44.4	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	17.5 / 32.4	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	17.5 / 32.4	ND	ND	0 / 8	ND
PCB-118		ng/kg		248.0	427.0	8 / 8	340.3
PCB-119	CE	ng/kg	147.0 / 273.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-121		ng/kg	5.6 / 10.4	ND	ND	0 / 8	ND
PCB-122		ng/kg	7.7 / 14.2	ND	ND	0 / 8	ND
PCB-123		ng/kg	9.7 / 17.5	10.3	13.5	2 / 8	11.9
PCB-124	CE	ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	147.0 / 273.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	7.6 / 14.0	ND	ND	0 / 8	ND
PCB-127		ng/kg	7.2 / 13.3	ND	ND	0 / 8	ND
PCB-128		ng/kg		42.1	69.5	8 / 8	55.2
PCB-129		ng/kg		575.0	1140.0	8 / 8	859.0
PCB-130		ng/kg		16.9	36.6	8 / 8	26.5
PCB-131		ng/kg	7.2 / 13.3	ND	ND	0 / 8	ND
PCB-132		ng/kg		73.2	124.0	8 / 8	100.1
PCB-133		ng/kg		16.0	31.1	8 / 8	22.4
PCB-134		ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-135		ng/kg		151.0	442.0	8 / 8	274.0
PCB-136		ng/kg	7.1 / 7.1	19.2	40.7	7 / 8	33.2
PCB-137		ng/kg	11.8 / 21.8	16.8	16.8	1 / 8	16.8
PCB-138	CE	ng/kg	30.1 / 55.8	ND	ND	0 / 8	ND
PCB-139		ng/kg	18.3 / 34.0	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	18.3 / 34.0	ND	ND	0 / 8	ND
PCB-141		ng/kg		64.3	142.0	8 / 8	103.2
PCB-142		ng/kg	6.7 / 12.4	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-144		ng/kg	13.4 / 24.4	21.9	29.3	5 / 8	24.9
PCB-145		ng/kg	6.1 / 11.3	ND	ND	0 / 8	ND
PCB-146		ng/kg		143.0	339.0	8 / 8	228.0
PCB-147		ng/kg		508.0	999.0	8 / 8	760.5
PCB-148		ng/kg	7.8 / 14.4	8.2	11.1	2 / 8	9.7

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-149	CE	ng/kg	42.6 / 79.1	ND	ND	0 / 8	ND
PCB-150		ng/kg	5.8 / 10.7	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	25.8 / 47.8	ND	ND	0 / 8	ND
PCB-152		ng/kg	5.4 / 10.0	ND	ND	0 / 8	ND
PCB-153		ng/kg		573.0	1060.0	8 / 8	810.1
PCB-154		ng/kg		30.4	56.4	8 / 8	40.4
PCB-155		ng/kg	7.9 / 10.7	7.0	9.5	4 / 8	8.4
PCB-156		ng/kg	66.7 / 90.9	52.3	71.3	4 / 8	60.9
PCB-157	CE	ng/kg	49.0 / 90.9	ND	ND	0 / 8	ND
PCB-158		ng/kg		38.6	69.3	8 / 8	54.7
PCB-159		ng/kg	6.2 / 11.5	ND	ND	0 / 8	ND
PCB-160		ng/kg	11.4 / 21.1	ND	ND	0 / 8	ND
PCB-161		ng/kg	5.2 / 9.6	ND	ND	0 / 8	ND
PCB-162		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	30.1 / 55.8	ND	ND	0 / 8	ND
PCB-164		ng/kg		31.3	61.2	8 / 8	45.9
PCB-165		ng/kg	10.4 / 19.3	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	17.8 / 33.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-168	CE	ng/kg	27.1 / 50.2	ND	ND	0 / 8	ND
PCB-169		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-170		ng/kg		93.5	200.0	8 / 8	166.6
PCB-171		ng/kg		34.0	63.9	8 / 8	53.5
PCB-172		ng/kg	13.0 / 13.0	33.4	44.2	7 / 8	38.2
PCB-173	CE	ng/kg	15.9 / 29.5	ND	ND	0 / 8	ND
PCB-174		ng/kg		84.3	180.0	8 / 8	134.0
PCB-175		ng/kg	6.9 / 12.4	7.4	10.7	3 / 8	8.8
PCB-176		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-177		ng/kg		70.3	147.0	8 / 8	104.6
PCB-178		ng/kg		37.6	81.2	8 / 8	56.9
PCB-179		ng/kg		27.8	61.8	8 / 8	40.5
PCB-180		ng/kg		301.0	678.0	8 / 8	541.9
PCB-181		ng/kg	9.5 / 17.6	ND	ND	0 / 8	ND
PCB-182		ng/kg	17.4 / 32.2	ND	ND	0 / 8	ND
PCB-183		ng/kg		76.7	159.0	8 / 8	127.7
PCB-184		ng/kg	6.0 / 10.7	7.2	8.5	2 / 8	7.9
PCB-185	CE	ng/kg	18.8 / 34.9	ND	ND	0 / 8	ND
PCB-186		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-187		ng/kg		407.0	1240.0	8 / 8	837.1
PCB-188		ng/kg	3.7 / 6.9	ND	ND	0 / 8	ND
PCB-189		ng/kg	24.5 / 45.5	ND	ND	0 / 8	ND
PCB-190		ng/kg		36.2	60.3	8 / 8	42.3
PCB-191		ng/kg	6.5 / 11.8	9.5	9.5	1 / 8	9.5
PCB-192		ng/kg	8.4 / 15.6	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	23.6 / 43.8	ND	ND	0 / 8	ND
PCB-194		ng/kg	18.4 / 18.4	61.4	93.4	7 / 8	76.0
PCB-195		ng/kg		24.6	45.8	8 / 8	34.4
PCB-196		ng/kg	10.7 / 15.3	28.0	45.6	6 / 8	38.8
PCB-197		ng/kg	16.0 / 29.7	ND	ND	0 / 8	ND
PCB-198		ng/kg		62.8	158.0	8 / 8	111.9
PCB-199	CE	ng/kg	15.8 / 29.3	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-200	CE	ng/kg	16.0 / 29.7	ND	ND	0 / 8	ND
PCB-201		ng/kg	36.8 / 68.2	ND	ND	0 / 8	ND
PCB-202		ng/kg	18.4 / 25.1	13.9	24.3	4 / 8	18.6
PCB-203		ng/kg		38.7	86.8	8 / 8	63.2
PCB-204		ng/kg	36.8 / 68.2	ND	ND	0 / 8	ND
PCB-205		ng/kg	9.0 / 16.6	ND	ND	0 / 8	ND
PCB-206		ng/kg	9.9 / 18.4	17.8	21.9	3 / 8	19.3
PCB-207		ng/kg	36.8 / 68.2	ND	ND	0 / 8	ND
PCB-208		ng/kg	8.3 / 15.4	ND	ND	0 / 8	ND
PCB-209		ng/kg	36.8 / 68.2	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	44.7	8 / 8	13.7
Dichloro BP		ng/kg		178.0	331.0	8 / 8	233.3
Trichloro BP		ng/kg		530.0	1120.0	8 / 8	915.3
Tetrachloro BP		ng/kg		1270.0	2430.0	8 / 8	1860.0
Pentachloro BP		ng/kg		1490.0	2880.0	8 / 8	2337.5
Hexachloro BP		ng/kg		2280.0	4690.0	8 / 8	3461.3
Heptachloro BP		ng/kg		1170.0	2920.0	8 / 8	2145.0
Octachloro BP		ng/kg		126.0	451.0	8 / 8	314.1
Nonachloro BP		ng/kg		0.0	21.9	8 / 8	7.2
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		7130.0	14200.0	8 / 8	11291.3
PCB-1016		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1221		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1232		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1242		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1248		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1254		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
PCB-1260		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	36.9 / 55.8	ND	ND	0 / 8	ND

Table A-12. Summary statistics for channel catfish at ICK3.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		32.5	47.1	8 / 8	38.8
Weight, total		g		278.0	991.2	8 / 8	591.7
Weight, fillet		g		84.9	260.1	8 / 8	168.1
Lipid		%		2.5	7.1	8 / 8	4.6
PCB-001		ng/kg	28.1 / 35.3	ND	ND	0 / 8	ND
PCB-002		ng/kg	75.8 / 95.1	ND	ND	0 / 8	ND
PCB-003		ng/kg	42.2 / 52.9	ND	ND	0 / 8	ND
PCB-004		ng/kg	97.7 / 123.0	ND	ND	0 / 8	ND
PCB-005		ng/kg	8.2 / 10.3	ND	ND	0 / 8	ND
PCB-006		ng/kg	66.4 / 83.3	ND	ND	0 / 8	ND
PCB-007		ng/kg	90.6 / 114.0	ND	ND	0 / 8	ND
PCB-008		ng/kg		58.4	106.0	8 / 8	78.4
PCB-009		ng/kg	77.3 / 97.1	ND	ND	0 / 8	ND
PCB-010		ng/kg	97.7 / 123.0	ND	ND	0 / 8	ND
PCB-011		ng/kg	625.0 / 784.0	ND	ND	0 / 8	ND
PCB-012		ng/kg	157.0 / 197.0	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	157.0 / 197.0	ND	ND	0 / 8	ND
PCB-014		ng/kg	51.6 / 64.7	ND	ND	0 / 8	ND
PCB-015		ng/kg	97.7 / 123.0	ND	ND	0 / 8	ND
PCB-016		ng/kg	97.7 / 123.0	ND	ND	0 / 8	ND
PCB-017		ng/kg	97.7 / 123.0	111.0	150.0	5 / 8	130.2
PCB-018		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-019		ng/kg	43.0 / 53.9	ND	ND	0 / 8	ND
PCB-020		ng/kg	402.0 / 505.0	499.0	735.0	5 / 8	651.2
PCB-021		ng/kg	445.0 / 559.0	ND	ND	0 / 8	ND
PCB-022		ng/kg	301.0 / 377.0	ND	ND	0 / 8	ND
PCB-023		ng/kg	37.5 / 47.1	ND	ND	0 / 8	ND
PCB-024		ng/kg	43.0 / 53.9	ND	ND	0 / 8	ND
PCB-025		ng/kg	34.4 / 43.1	ND	ND	0 / 8	ND
PCB-026		ng/kg	57.8 / 72.5	ND	ND	0 / 8	ND
PCB-027		ng/kg	32.8 / 41.2	ND	ND	0 / 8	ND
PCB-028	CE	ng/kg	402.0 / 505.0	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	57.8 / 72.5	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-031		ng/kg	453.0 / 569.0	ND	ND	0 / 8	ND
PCB-032		ng/kg	97.7 / 123.0	113.0	113.0	1 / 8	113.0
PCB-033	CE	ng/kg	445.0 / 559.0	ND	ND	0 / 8	ND
PCB-034		ng/kg	35.2 / 44.1	ND	ND	0 / 8	ND
PCB-035		ng/kg	48.4 / 60.8	ND	ND	0 / 8	ND
PCB-036		ng/kg	43.0 / 53.9	ND	ND	0 / 8	ND
PCB-037		ng/kg	152.0 / 191.0	ND	ND	0 / 8	ND
PCB-038		ng/kg	28.1 / 35.3	ND	ND	0 / 8	ND
PCB-039		ng/kg	52.3 / 65.7	ND	ND	0 / 8	ND
PCB-040		ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-041	CE	ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-042		ng/kg		119.0	210.0	8 / 8	167.0
PCB-043		ng/kg	95.3 / 120.0	ND	ND	0 / 8	ND
PCB-044		ng/kg		508.0	841.0	8 / 8	691.8
PCB-045		ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-046		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-047	CE	ng/kg	209.0 / 262.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-048		ng/kg	60.6 / 64.7	52.9	102.0	5 / 8	78.7
PCB-049		ng/kg		383.0	625.0	8 / 8	506.0
PCB-050		ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-051	CE	ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-052		ng/kg		667.0	1170.0	8 / 8	870.5
PCB-053	CE	ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-054		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-055		ng/kg	54.7 / 68.6	ND	ND	0 / 8	ND
PCB-056		ng/kg	135.0 / 170.0	ND	ND	0 / 8	ND
PCB-057		ng/kg	41.4 / 52.0	ND	ND	0 / 8	ND
PCB-058		ng/kg	43.0 / 53.9	ND	ND	0 / 8	ND
PCB-059		ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-060		ng/kg	102.0 / 127.0	120.0	150.0	5 / 8	132.0
PCB-061		ng/kg		385.0	579.0	8 / 8	481.3
PCB-062	CE	ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-063		ng/kg	44.5 / 55.9	ND	ND	0 / 8	ND
PCB-064		ng/kg		284.0	451.0	8 / 8	369.9
PCB-065	CE	ng/kg	209.0 / 262.0	ND	ND	0 / 8	ND
PCB-066		ng/kg		385.0	708.0	8 / 8	497.6
PCB-067		ng/kg	53.1 / 66.7	ND	ND	0 / 8	ND
PCB-068		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	110.0 / 138.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	334.0 / 419.0	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-072		ng/kg	39.8 / 50.0	ND	ND	0 / 8	ND
PCB-073	CE	ng/kg	95.3 / 120.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	334.0 / 419.0	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	586.0 / 735.0	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	334.0 / 419.0	ND	ND	0 / 8	ND
PCB-077		ng/kg	46.1 / 57.8	ND	ND	0 / 8	ND
PCB-078		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-079		ng/kg	54.7 / 68.6	ND	ND	0 / 8	ND
PCB-080		ng/kg	48.4 / 60.8	ND	ND	0 / 8	ND
PCB-081		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-082		ng/kg	57.0 / 71.6	67.0	71.5	2 / 8	69.3
PCB-083		ng/kg	136.0 / 171.0	ND	ND	0 / 8	ND
PCB-084		ng/kg	76.6 / 96.1	105.0	134.0	4 / 8	114.5
PCB-085		ng/kg	163.0 / 175.0	176.0	226.0	6 / 8	206.3
PCB-086		ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-087	CE	ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	112.0 / 140.0	133.0	144.0	3 / 8	139.0
PCB-089		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-090		ng/kg		786.0	1510.0	8 / 8	1045.1
PCB-091	CE	ng/kg	112.0 / 140.0	ND	ND	0 / 8	ND
PCB-092		ng/kg		139.0	289.0	8 / 8	195.0
PCB-093		ng/kg	204.0 / 256.0	ND	ND	0 / 8	ND
PCB-094		ng/kg	53.9 / 67.6	ND	ND	0 / 8	ND
PCB-095		ng/kg		275.0	489.0	8 / 8	380.5
PCB-096		ng/kg	41.4 / 52.0	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	204.0 / 256.0	ND	ND	0 / 8	ND
PCB-099		ng/kg		434.0	765.0	8 / 8	565.8

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-100	CE	ng/kg	204.0 / 256.0	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	193.0 / 242.0	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	204.0 / 256.0	ND	ND	0 / 8	ND
PCB-103		ng/kg	55.5 / 69.6	ND	ND	0 / 8	ND
PCB-104		ng/kg	41.4 / 52.0	ND	ND	0 / 8	ND
PCB-105		ng/kg		304.0	449.0	8 / 8	381.0
PCB-106		ng/kg	78.1 / 98.0	ND	ND	0 / 8	ND
PCB-107		ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	85.2 / 107.0	ND	ND	0 / 8	ND
PCB-110		ng/kg		906.0	1460.0	8 / 8	1137.3
PCB-111		ng/kg	56.2 / 70.6	ND	ND	0 / 8	ND
PCB-112		ng/kg	96.9 / 122.0	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	193.0 / 242.0	ND	ND	0 / 8	ND
PCB-114		ng/kg	46.1 / 57.8	ND	ND	0 / 8	ND
PCB-115	CE	ng/kg	191.0 / 239.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	139.0 / 175.0	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	139.0 / 175.0	ND	ND	0 / 8	ND
PCB-118		ng/kg		903.0	1380.0	8 / 8	1137.6
PCB-119	CE	ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-121		ng/kg	44.5 / 55.9	ND	ND	0 / 8	ND
PCB-122		ng/kg	60.9 / 76.5	ND	ND	0 / 8	ND
PCB-123		ng/kg	75.0 / 94.1	ND	ND	0 / 8	ND
PCB-124	CE	ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	1170.0 / 1470.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	60.2 / 75.5	ND	ND	0 / 8	ND
PCB-127		ng/kg	57.0 / 71.6	ND	ND	0 / 8	ND
PCB-128		ng/kg	142.0 / 178.0	218.0	218.0	1 / 8	218.0
PCB-129		ng/kg		1170.0	3190.0	8 / 8	1548.8
PCB-130		ng/kg	55.5 / 69.6	68.1	115.0	2 / 8	91.6
PCB-131		ng/kg	57.0 / 71.6	ND	ND	0 / 8	ND
PCB-132		ng/kg	119.0 / 119.0	158.0	341.0	7 / 8	208.7
PCB-133		ng/kg	49.2 / 61.8	ND	ND	0 / 8	ND
PCB-134		ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-135		ng/kg	241.0 / 258.0	208.0	743.0	6 / 8	354.5
PCB-136		ng/kg	56.2 / 70.6	ND	ND	0 / 8	ND
PCB-137		ng/kg	93.7 / 118.0	ND	ND	0 / 8	ND
PCB-138	CE	ng/kg	240.0 / 301.0	ND	ND	0 / 8	ND
PCB-139		ng/kg	146.0 / 183.0	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	146.0 / 183.0	ND	ND	0 / 8	ND
PCB-141		ng/kg		128.0	494.0	8 / 8	194.4
PCB-142		ng/kg	53.1 / 66.7	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-144		ng/kg	105.0 / 131.0	ND	ND	0 / 8	ND
PCB-145		ng/kg	48.4 / 60.8	ND	ND	0 / 8	ND
PCB-146		ng/kg		205.0	754.0	8 / 8	316.5
PCB-147		ng/kg		643.0	1840.0	8 / 8	905.6
PCB-148		ng/kg	61.7 / 77.5	ND	ND	0 / 8	ND
PCB-149	CE	ng/kg	340.0 / 426.0	ND	ND	0 / 8	ND
PCB-150		ng/kg	46.1 / 57.8	ND	ND	0 / 8	ND
PCB-151	CE	ng/kg	205.0 / 258.0	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-152		ng/kg	43.0 / 53.9	ND	ND	0 / 8	ND
PCB-153		ng/kg		1050.0	3190.0	8 / 8	1438.8
PCB-154		ng/kg	56.2 / 70.6	69.1	69.1	1 / 8	69.1
PCB-155		ng/kg	46.1 / 57.8	ND	ND	0 / 8	ND
PCB-156		ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-157	CE	ng/kg	391.0 / 490.0	ND	ND	0 / 8	ND
PCB-158		ng/kg		89.0	220.0	8 / 8	113.8
PCB-159		ng/kg	49.2 / 61.8	ND	ND	0 / 8	ND
PCB-160		ng/kg	90.6 / 114.0	ND	ND	0 / 8	ND
PCB-161		ng/kg	41.4 / 52.0	ND	ND	0 / 8	ND
PCB-162		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	240.0 / 301.0	ND	ND	0 / 8	ND
PCB-164		ng/kg	91.4 / 115.0	193.0	193.0	1 / 8	193.0
PCB-165		ng/kg	82.8 / 104.0	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	142.0 / 178.0	ND	ND	0 / 8	ND
PCB-167		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-168	CE	ng/kg	216.0 / 271.0	ND	ND	0 / 8	ND
PCB-169		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-170		ng/kg		112.0	445.0	8 / 8	176.4
PCB-171		ng/kg	127.0 / 159.0	188.0	188.0	1 / 8	188.0
PCB-172		ng/kg	70.3 / 88.2	113.0	113.0	1 / 8	113.0
PCB-173	CE	ng/kg	127.0 / 159.0	ND	ND	0 / 8	ND
PCB-174		ng/kg		110.0	531.0	8 / 8	202.8
PCB-175		ng/kg	53.1 / 66.7	ND	ND	0 / 8	ND
PCB-176		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-177		ng/kg	59.0 / 59.0	72.0	343.0	7 / 8	127.5
PCB-178		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-179		ng/kg	53.1 / 66.7	102.0	102.0	1 / 8	102.0
PCB-180		ng/kg		368.0	1600.0	8 / 8	631.6
PCB-181		ng/kg	75.8 / 95.1	ND	ND	0 / 8	ND
PCB-182		ng/kg	138.0 / 174.0	ND	ND	0 / 8	ND
PCB-183		ng/kg	150.0 / 188.0	542.0	542.0	1 / 8	542.0
PCB-184		ng/kg	46.1 / 57.8	ND	ND	0 / 8	ND
PCB-185	CE	ng/kg	150.0 / 188.0	ND	ND	0 / 8	ND
PCB-186		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-187		ng/kg		501.0	2220.0	8 / 8	916.4
PCB-188		ng/kg	29.7 / 37.3	ND	ND	0 / 8	ND
PCB-189		ng/kg	195.0 / 245.0	ND	ND	0 / 8	ND
PCB-190		ng/kg	105.0 / 132.0	ND	ND	0 / 8	ND
PCB-191		ng/kg	50.8 / 63.7	ND	ND	0 / 8	ND
PCB-192		ng/kg	67.2 / 84.3	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	188.0 / 236.0	ND	ND	0 / 8	ND
PCB-194		ng/kg	99.3 / 125.0	132.0	132.0	1 / 8	132.0
PCB-195		ng/kg	115.0 / 145.0	ND	ND	0 / 8	ND
PCB-196		ng/kg	82.5 / 104.0	103.0	103.0	1 / 8	103.0
PCB-197		ng/kg	128.0 / 160.0	ND	ND	0 / 8	ND
PCB-198		ng/kg	126.0 / 158.0	156.0	374.0	3 / 8	229.3
PCB-199	CE	ng/kg	126.0 / 158.0	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	128.0 / 160.0	ND	ND	0 / 8	ND
PCB-201		ng/kg	293.0 / 368.0	ND	ND	0 / 8	ND
PCB-202		ng/kg	108.0 / 135.0	ND	ND	0 / 8	ND
PCB-203		ng/kg	79.9 / 100.0	209.0	209.0	1 / 8	209.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-204		ng/kg	293.0 / 368.0	ND	ND	0 / 8	ND
PCB-205		ng/kg	71.3 / 89.5	ND	ND	0 / 8	ND
PCB-206		ng/kg	78.9 / 99.0	ND	ND	0 / 8	ND
PCB-207		ng/kg	293.0 / 368.0	ND	ND	0 / 8	ND
PCB-208		ng/kg	66.2 / 83.1	ND	ND	0 / 8	ND
PCB-209		ng/kg	293.0 / 368.0	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Dichloro BP		ng/kg		58.4	106.0	8 / 8	78.4
Trichloro BP		ng/kg		0.0	947.0	8 / 8	502.4
Tetrachloro BP		ng/kg		2800.0	4580.0	8 / 8	3716.3
Pentachloro BP		ng/kg		3790.0	6810.0	8 / 8	5126.3
Hexachloro BP		ng/kg		3520.0	11400.0	8 / 8	5051.3
Heptachloro BP		ng/kg		1230.0	6080.0	8 / 8	2155.0
Octachloro BP		ng/kg		0.0	818.0	8 / 8	141.5
Nonachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		11500.0	30600.0	8 / 8	16775.0
PCB-1016		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1242		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1248		ug/kg	19.6 / 19.6	ND	ND	0 / 8	ND
PCB-1254		ug/kg	19.6 / 19.6	26.7	34.8	6 / 8	30.5
PCB-1260		ug/kg	19.6 / 19.6	21.1	21.1	1 / 8	21.1
Total Aroclors		ug/kg	19.6 / 19.6	26.7	55.9	6 / 8	34.1

Table A-13. Summary statistics for green sunfish at ICK3.0

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
Length		cm		11.4	15.2	8 / 8	13.6
Weight, total		g		30.7	81.2	8 / 8	56.2
Weight, fillet		g		13.0	35.7	8 / 8	22.6
Lipid		%		0.1	1.2	8 / 8	0.7
PCB-001		ng/kg	3.7 / 3.7	4.9	6.4	7 / 8	5.5
PCB-002		ng/kg	9.4 / 10.3	10.0	10.5	2 / 8	10.2
PCB-003		ng/kg		11.1	15.1	8 / 8	12.6
PCB-004		ng/kg	12.6 / 13.3	13.7	15.6	5 / 8	14.5
PCB-005		ng/kg	1.0 / 1.1	ND	ND	0 / 8	ND
PCB-006		ng/kg	8.3 / 9.0	9.1	9.6	2 / 8	9.3
PCB-007		ng/kg	11.3 / 12.3	ND	ND	0 / 8	ND
PCB-008		ng/kg		28.3	48.3	8 / 8	36.6
PCB-009		ng/kg	9.6 / 10.5	ND	ND	0 / 8	ND
PCB-010		ng/kg	12.1 / 13.3	ND	ND	0 / 8	ND
PCB-011		ng/kg	85.1 / 85.1	89.4	126.0	7 / 8	106.5
PCB-012		ng/kg	19.5 / 21.4	ND	ND	0 / 8	ND
PCB-013	CE	ng/kg	19.5 / 21.4	ND	ND	0 / 8	ND
PCB-014		ng/kg	6.4 / 7.0	ND	ND	0 / 8	ND
PCB-015		ng/kg		13.4	25.8	8 / 8	20.7
PCB-016		ng/kg		22.4	29.9	8 / 8	26.2
PCB-017		ng/kg		21.6	39.7	8 / 8	32.9
PCB-018		ng/kg		40.2	71.7	8 / 8	57.3
PCB-019		ng/kg	5.6 / 5.9	6.7	8.5	5 / 8	7.4
PCB-020		ng/kg		99.7	262.0	8 / 8	192.2
PCB-021		ng/kg	60.6 / 60.6	62.9	86.8	7 / 8	69.9
PCB-022		ng/kg	41.0 / 41.0	54.3	77.4	7 / 8	61.9
PCB-023		ng/kg	4.7 / 5.1	ND	ND	0 / 8	ND
PCB-024		ng/kg	5.3 / 5.9	ND	ND	0 / 8	ND
PCB-025		ng/kg	4.4 / 4.4	6.8	15.9	7 / 8	12.3
PCB-026		ng/kg		14.7	33.6	8 / 8	26.0
PCB-027		ng/kg	4.5 / 4.5	4.8	7.1	7 / 8	5.9
PCB-028	CE	ng/kg	50.0 / 54.8	ND	ND	0 / 8	ND
PCB-029	CE	ng/kg	7.2 / 7.9	ND	ND	0 / 8	ND
PCB-030	CE	ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-031		ng/kg		72.4	172.0	8 / 8	130.8
PCB-032		ng/kg		17.9	36.7	8 / 8	27.5
PCB-033	CE	ng/kg	55.3 / 60.6	ND	ND	0 / 8	ND
PCB-034		ng/kg	4.4 / 4.8	ND	ND	0 / 8	ND
PCB-035		ng/kg	6.0 / 6.6	ND	ND	0 / 8	ND
PCB-036		ng/kg	5.3 / 5.9	ND	ND	0 / 8	ND
PCB-037		ng/kg	20.7 / 20.7	24.1	39.2	7 / 8	32.7
PCB-038		ng/kg	3.5 / 3.8	ND	ND	0 / 8	ND
PCB-039		ng/kg	6.5 / 7.1	ND	ND	0 / 8	ND
PCB-040		ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-041	CE	ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-042		ng/kg		16.9	45.0	8 / 8	35.0
PCB-043		ng/kg	11.8 / 13.0	ND	ND	0 / 8	ND
PCB-044		ng/kg		70.8	209.0	8 / 8	160.2
PCB-045		ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-046		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-047	CE	ng/kg	25.9 / 28.4	ND	ND	0 / 8	ND
PCB-048		ng/kg	6.7 / 6.7	14.0	29.4	7 / 8	23.5
PCB-049		ng/kg		46.2	138.0	8 / 8	103.2
PCB-050		ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-051	CE	ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-052		ng/kg		114.0	324.0	8 / 8	241.4
PCB-053	CE	ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-054		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-055		ng/kg	6.8 / 7.5	ND	ND	0 / 8	ND
PCB-056		ng/kg		23.4	61.7	8 / 8	48.1
PCB-057		ng/kg	5.2 / 5.6	ND	ND	0 / 8	ND
PCB-058		ng/kg	5.3 / 5.9	ND	ND	0 / 8	ND
PCB-059		ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-060		ng/kg		17.5	44.9	8 / 8	35.7
PCB-061		ng/kg		117.0	339.0	8 / 8	258.8
PCB-062	CE	ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-063		ng/kg	5.9 / 6.1	6.4	9.0	6 / 8	7.6
PCB-064		ng/kg		33.0	89.5	8 / 8	66.7
PCB-065	CE	ng/kg	25.9 / 28.4	ND	ND	0 / 8	ND
PCB-066		ng/kg		56.6	158.0	8 / 8	119.7
PCB-067		ng/kg	6.6 / 7.2	ND	ND	0 / 8	ND
PCB-068		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-069	CE	ng/kg	13.7 / 15.0	ND	ND	0 / 8	ND
PCB-070	CE	ng/kg	41.5 / 45.4	ND	ND	0 / 8	ND
PCB-071	CE	ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-072		ng/kg	5.0 / 5.4	ND	ND	0 / 8	ND
PCB-073	CE	ng/kg	11.8 / 13.0	ND	ND	0 / 8	ND
PCB-074	CE	ng/kg	41.5 / 45.4	ND	ND	0 / 8	ND
PCB-075	CE	ng/kg	72.8 / 79.8	ND	ND	0 / 8	ND
PCB-076	CE	ng/kg	41.5 / 45.4	ND	ND	0 / 8	ND
PCB-077		ng/kg	6.3 / 6.3	9.7	12.9	7 / 8	11.3
PCB-078		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-079		ng/kg	6.8 / 7.5	ND	ND	0 / 8	ND
PCB-080		ng/kg	6.0 / 6.6	ND	ND	0 / 8	ND
PCB-081		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-082		ng/kg	7.2 / 7.8	14.5	21.6	4 / 8	17.8
PCB-083		ng/kg	16.9 / 18.5	ND	ND	0 / 8	ND
PCB-084		ng/kg	10.0 / 10.0	11.6	30.7	7 / 8	23.4
PCB-085		ng/kg	18.0 / 18.9	37.4	59.1	6 / 8	47.5
PCB-086		ng/kg	146.0 / 160.0	173.0	182.0	3 / 8	177.3
PCB-087	CE	ng/kg	146.0 / 160.0	ND	ND	0 / 8	ND
PCB-088		ng/kg	14.4 / 15.2	21.7	27.5	5 / 8	24.2
PCB-089		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-090		ng/kg		102.0	342.0	8 / 8	250.5
PCB-091	CE	ng/kg	13.9 / 15.2	ND	ND	0 / 8	ND
PCB-092		ng/kg		15.2	50.1	8 / 8	38.0
PCB-093		ng/kg	25.3 / 27.8	ND	ND	0 / 8	ND
PCB-094		ng/kg	6.7 / 7.3	ND	ND	0 / 8	ND
PCB-095		ng/kg		39.9	153.0	8 / 8	106.7
PCB-096		ng/kg	5.2 / 5.6	ND	ND	0 / 8	ND
PCB-097	CE	ng/kg	146.0 / 160.0	ND	ND	0 / 8	ND
PCB-098	CE	ng/kg	25.3 / 27.8	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-099		ng/kg		51.6	169.0	8 / 8	123.6
PCB-100	CE	ng/kg	25.3 / 27.8	ND	ND	0 / 8	ND
PCB-101	CE	ng/kg	24.0 / 26.3	ND	ND	0 / 8	ND
PCB-102	CE	ng/kg	25.3 / 27.8	ND	ND	0 / 8	ND
PCB-103		ng/kg	6.9 / 7.6	ND	ND	0 / 8	ND
PCB-104		ng/kg	5.2 / 5.6	ND	ND	0 / 8	ND
PCB-105		ng/kg		33.7	127.0	8 / 8	88.6
PCB-106		ng/kg	9.7 / 10.6	ND	ND	0 / 8	ND
PCB-107		ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-108	CE	ng/kg	146.0 / 160.0	ND	ND	0 / 8	ND
PCB-109		ng/kg	11.6 / 11.6	13.6	23.1	7 / 8	17.6
PCB-110		ng/kg		96.5	310.0	8 / 8	236.9
PCB-111		ng/kg	7.0 / 7.7	ND	ND	0 / 8	ND
PCB-112		ng/kg	12.0 / 13.2	ND	ND	0 / 8	ND
PCB-113	CE	ng/kg	24.0 / 26.3	ND	ND	0 / 8	ND
PCB-114		ng/kg	5.7 / 6.3	8.9	11.2	3 / 8	9.8
PCB-115	CE	ng/kg	23.7 / 26.0	ND	ND	0 / 8	ND
PCB-116	CE	ng/kg	17.3 / 18.9	ND	ND	0 / 8	ND
PCB-117	CE	ng/kg	17.3 / 18.9	ND	ND	0 / 8	ND
PCB-118		ng/kg		107.0	369.0	8 / 8	260.6
PCB-119	CE	ng/kg	146.0 / 160.0	ND	ND	0 / 8	ND
PCB-120		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-121		ng/kg	5.5 / 6.1	ND	ND	0 / 8	ND
PCB-122		ng/kg	7.6 / 8.3	ND	ND	0 / 8	ND
PCB-123		ng/kg	9.3 / 10.2	10.7	11.5	2 / 8	11.1
PCB-124	CE	ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-125	CE	ng/kg	146.0 / 160.0	ND	ND	0 / 8	ND
PCB-126		ng/kg	7.5 / 8.2	ND	ND	0 / 8	ND
PCB-127		ng/kg	7.1 / 7.8	ND	ND	0 / 8	ND
PCB-128		ng/kg	19.3 / 19.3	28.3	58.6	7 / 8	38.1
PCB-129		ng/kg		124.0	436.0	8 / 8	295.5
PCB-130		ng/kg	6.9 / 7.6	12.3	19.8	4 / 8	15.8
PCB-131		ng/kg	7.1 / 7.8	ND	ND	0 / 8	ND
PCB-132		ng/kg		14.5	56.6	8 / 8	40.1
PCB-133		ng/kg	6.1 / 6.7	ND	ND	0 / 8	ND
PCB-134		ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-135		ng/kg	28.0 / 28.0	42.6	68.7	7 / 8	55.8
PCB-136		ng/kg	7.1 / 7.7	10.8	16.5	5 / 8	12.6
PCB-137		ng/kg	11.6 / 12.8	13.1	20.1	2 / 8	16.6
PCB-138	CE	ng/kg	29.8 / 32.7	ND	ND	0 / 8	ND
PCB-139		ng/kg	18.2 / 19.9	ND	ND	0 / 8	ND
PCB-140	CE	ng/kg	18.2 / 19.9	ND	ND	0 / 8	ND
PCB-141		ng/kg	13.1 / 13.1	23.3	45.1	7 / 8	32.5
PCB-142		ng/kg	6.6 / 7.2	ND	ND	0 / 8	ND
PCB-143	CE	ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-144		ng/kg	13.0 / 14.3	ND	ND	0 / 8	ND
PCB-145		ng/kg	6.0 / 6.6	ND	ND	0 / 8	ND
PCB-146		ng/kg		21.0	63.9	8 / 8	45.4
PCB-147		ng/kg		60.4	226.0	8 / 8	160.9
PCB-148		ng/kg	7.7 / 8.4	ND	ND	0 / 8	ND
PCB-149	CE	ng/kg	42.2 / 46.3	ND	ND	0 / 8	ND
PCB-150		ng/kg	5.7 / 6.3	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-151	CE	ng/kg	25.5 / 28.0	ND	ND	0 / 8	ND
PCB-152		ng/kg	5.3 / 5.9	ND	ND	0 / 8	ND
PCB-153		ng/kg		125.0	331.0	8 / 8	226.5
PCB-154		ng/kg	7.0 / 7.7	ND	ND	0 / 8	ND
PCB-155		ng/kg	6.0 / 6.3	6.5	11.6	5 / 8	8.8
PCB-156		ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-157	CE	ng/kg	48.5 / 53.2	ND	ND	0 / 8	ND
PCB-158		ng/kg		10.5	33.7	8 / 8	23.3
PCB-159		ng/kg	6.1 / 6.7	ND	ND	0 / 8	ND
PCB-160		ng/kg	11.3 / 12.3	ND	ND	0 / 8	ND
PCB-161		ng/kg	5.2 / 5.6	ND	ND	0 / 8	ND
PCB-162		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-163	CE	ng/kg	29.8 / 32.7	ND	ND	0 / 8	ND
PCB-164		ng/kg	11.8 / 12.4	12.8	21.0	6 / 8	15.6
PCB-165		ng/kg	10.3 / 11.3	ND	ND	0 / 8	ND
PCB-166	CE	ng/kg	17.6 / 19.3	ND	ND	0 / 8	ND
PCB-167		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-168	CE	ng/kg	26.8 / 29.4	ND	ND	0 / 8	ND
PCB-169		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-170		ng/kg		17.5	44.7	8 / 8	27.3
PCB-171		ng/kg	15.7 / 17.2	ND	ND	0 / 8	ND
PCB-172		ng/kg	8.7 / 9.6	9.2	9.7	2 / 8	9.4
PCB-173	CE	ng/kg	15.7 / 17.2	ND	ND	0 / 8	ND
PCB-174		ng/kg	11.1 / 11.1	17.3	30.1	7 / 8	23.7
PCB-175		ng/kg	6.6 / 7.2	ND	ND	0 / 8	ND
PCB-176		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-177		ng/kg		9.6	22.4	8 / 8	16.6
PCB-178		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-179		ng/kg	6.6 / 7.2	7.3	12.1	6 / 8	8.7
PCB-180		ng/kg		61.6	118.0	8 / 8	81.3
PCB-181		ng/kg	9.4 / 10.3	ND	ND	0 / 8	ND
PCB-182		ng/kg	17.2 / 18.8	ND	ND	0 / 8	ND
PCB-183		ng/kg	18.6 / 20.4	25.7	33.7	4 / 8	29.4
PCB-184		ng/kg	5.8 / 6.3	6.2	13.9	6 / 8	8.7
PCB-185	CE	ng/kg	18.6 / 20.4	ND	ND	0 / 8	ND
PCB-186		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-187		ng/kg		65.1	118.0	8 / 8	97.6
PCB-188		ng/kg	3.7 / 4.0	ND	ND	0 / 8	ND
PCB-189		ng/kg	24.3 / 26.6	ND	ND	0 / 8	ND
PCB-190		ng/kg	13.1 / 14.4	ND	ND	0 / 8	ND
PCB-191		ng/kg	6.3 / 6.9	ND	ND	0 / 8	ND
PCB-192		ng/kg	8.4 / 9.2	ND	ND	0 / 8	ND
PCB-193	CE	ng/kg	23.4 / 25.6	ND	ND	0 / 8	ND
PCB-194		ng/kg	12.3 / 13.5	14.6	17.0	2 / 8	15.8
PCB-195		ng/kg	14.3 / 15.7	ND	ND	0 / 8	ND
PCB-196		ng/kg	10.3 / 11.2	ND	ND	0 / 8	ND
PCB-197		ng/kg	15.9 / 17.4	ND	ND	0 / 8	ND
PCB-198		ng/kg	16.3 / 17.2	17.5	29.1	6 / 8	22.3
PCB-199	CE	ng/kg	15.7 / 17.2	ND	ND	0 / 8	ND
PCB-200	CE	ng/kg	15.9 / 17.4	ND	ND	0 / 8	ND
PCB-201		ng/kg	36.4 / 39.9	ND	ND	0 / 8	ND
PCB-202		ng/kg	13.4 / 14.7	ND	ND	0 / 8	ND

Analyte	CE	Units	Detection Limit Range of Nondetects	Minimum Detected Result	Maximum Detected Result	Number of Detections / Samples	Mean of Detections
PCB-203		ng/kg	10.3 / 10.3	10.9	18.0	7 / 8	13.6
PCB-204		ng/kg	36.4 / 39.9	ND	ND	0 / 8	ND
PCB-205		ng/kg	8.9 / 9.7	ND	ND	0 / 8	ND
PCB-206		ng/kg	9.8 / 10.7	ND	ND	0 / 8	ND
PCB-207		ng/kg	36.4 / 39.9	ND	ND	0 / 8	ND
PCB-208		ng/kg	8.2 / 9.0	ND	ND	0 / 8	ND
PCB-209		ng/kg	36.4 / 39.9	ND	ND	0 / 8	ND
Monochloro BP		ng/kg		16.5	29.6	8 / 8	20.0
Dichloro BP		ng/kg		41.7	209.0	8 / 8	161.7
Trichloro BP		ng/kg		296.0	879.0	8 / 8	657.5
Tetrachloro BP		ng/kg		509.0	1450.0	8 / 8	1104.4
Pentachloro BP		ng/kg		458.0	1790.0	8 / 8	1274.0
Hexachloro BP		ng/kg		356.0	1390.0	8 / 8	939.4
Heptachloro BP		ng/kg		156.0	392.0	8 / 8	273.8
Octachloro BP		ng/kg		0.0	64.1	8 / 8	32.6
Nonachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Decachloro BP		ng/kg		0.0	0.0	8 / 8	0.0
Total BPs		ng/kg		1840.0	5890.0	8 / 8	4463.8
PCB-1016		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1221		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1232		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1242		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1248		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1254		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
PCB-1260		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND
Total Aroclors		ug/kg	19.6 / 108.0	ND	ND	0 / 8	ND

APPENDIX B

2012 STREAM COMMUNITY SURVEY RESULTS

2012 Stream Community Survey Results from Waters near the KCP

Quantitative fish community surveys were conducted near the KCP in 1999. In 2012, while conducting the fish collection for PCB bioaccumulation, a specimen from all encountered species was temporarily collected for identification purposes. The goal of this effort was to evaluate whether there were any major changes in species diversity (i.e., species richness, or number of species) in the last 13 years. Although qualitative, the surveys could provide some confidence that any food-chain models that use the 1999 study are reasonable. Site locations and names in this study did not always overlap exactly with locations sampled in 1999; BLK 27.0 (2012) should correspond with BLK 32.1 (1999), BLK 31.0 (2012) should be upstream of BLK 33.9 (1999).

The list of species observed at each site in the June 2012 surveys is presented in Table B-1. As expected, species richness for the streams was fairly similar to the previous study (Table B-2). Sites on lower Indian Creek (especially ICK 0.2) showed high species diversity composed of many big river fish, presumably associated with Blue River influence. Species composition was very similar to 1999 and only one new species was collected that was not collected previously, *Notropis percobromus*, carmine shiner. Two sites on the Blue River (BLK 25.0 and BLK 27.0) have experienced extensive channelization since the 1960's with steep banks and little stream meander or riffle/pool complexes. The upper Blue River site (BLK 31.0) still maintains good instream structure, riffle/pool complexes, and stream meander, as well as plentiful macrophytes. We observed abundant crayfish at this upper site as well as abundant numbers of some more sensitive fish species such as the slender madtom.

Boone Creek (BCK 0.2) is a tributary to the Blue River flowing in just downstream of the Kansas City Plant. The lower reach of this first order stream is heavily impacted by channelization, has a poor riparian zone and is dominated by mostly tolerant fish species such as Western mosquitofish, central stoneroller, and bluntnose minnow.

In 1999 ICK 0.2 received a score of 122 out of 200 for the stream habitat assessment, while it received a score of 138 in 2012. This score is based on multiple habitat factors including epifaunal substrate, embeddedness, velocity, sediment deposition, flow, channel alteration, riffle frequency, bank stability, vegetative protection, and riparian zone width. Stream habitat data was only collected for ICK 0.2 due to time constraints. Scores were similar to 1999 showing a slight increase in scores associated with sediment deposition and channel flow. There was also a small decrease in the score for riparian cover on the right descending bank associated with the construction of a greenway path.

Invertebrates are often used to score a stream based on the number of families of insects observed in the three orders Ephemeroptera, Plecoptera, and Trichoptera (EPT). Data for the 1999 study indicated that there was an EPT score of 6 for ICK 0.2 and 28 total taxa identified; however this data was collected using a semi-quantitative sampling technique. Results from the 2012 qualitative survey only observed 2 families of EPT with the largest loss of families from the mayfly group, Ephemeroptera and 16 total taxa identified. Many mayfly families are susceptible to stream impacts such as sedimentation and thermal changes such as is often associated with the loss of riparian cover. Tolerant taxa were abundant at this site and made up the majority of families observed.

Table B-1. Species list of fish at sites in Blue River (BLK), Indian Creek (ICK), and Boone Creek (BCK), June 2012.

Taxon	Sites						
	BLK 25.0	BLK 27.0	BLK 31.0	ICK 0.2	ICK 1.0	ICK 3.0	BCK 0.2
Lepisosteidae							
shortnose gar *(Lepisosteus platostomus)*	-	1	1	1	-	-	-
Clupeidae							
gizzard shad *(Dorosoma cepedianum)*	-	-	1	1	-	-	-
Cyprinidae							
central stoneroller *(Campostoma anomalum)*	1	1	1	1	1	1	1
grass carp *(Ctenopharyngodon idella)*	1	1	1	1	1	1	-
red shiner *(Cyprinella lutrensis)*	1	1	1	1	1	1	-
common carp *(Cyprinus carpio)*	1	1	-	1	1	1	-
golden shiner *(Notemigonus crysoleucas)*	1	-	-	-	-	-	1
carmine shiner *(Notropis percobromus)*	-	-	-	-	1	-	-
sand shiner *(Notropis stramineus)*	1	1	1	-	1	1	-
suckermouth minnow *(Phenacobius mirabilis)*	-	-	1	1	1	-	-
bluntnose minnow *(Pimephales notatus)*	1	1	1	1	1	1	1
fathead minnow *(Pimephales promelas)*	-	-	-	-	-	-	1
creek chub *(semotilus atromaculatus)*	-	-	-	-	-	-	1
Catostomidae							
quillback *(Carpiodes cyprinus)*	1	1	-	1	-	-	-
bigmouth buffalo *(Ictiobus cyprinellus)*	-	1	-	-	-	-	-
golden redhorse *(Moxostoma erythrurum)*	-	1	-	-	1	-	-
Ictaluridae							
yellow bullhead *(Ameiurus natalis)*	-	1	-	-	1	1	-
channel catfish	1	1	1	1	1	1	-

(Ictalurus punctatus)

Taxon	BLK 25.0	BLK 27.0	BLK 31.0	ICK 0.2	ICK 1.0	ICK 3.0	BCK 0.2
slender madtom *(Noturus exilis)*	-	1	1	-	-	-	-
flathead catfish *(Pylodictis olivaris)*	1	1	1	1	-	1	-
Poeciliidae							
Western mosquitofish *(Gambusia affinis)*	1	-	-	-	-	1	1
Centrarchidae							
green sunfish *(Lepomis cyanellus)*	1	1	1	1	1	1	1
bluegill (*Lepomis macrochirus*)	1	1	1	1	1	1	1
longear sunfish (*Lepomis megalotis*)	-	1	1	1	-	-	-
largemouth bass (*Micropterus salmoides*)	-	1	1	1	1	1	-
white crappie (*Pomoxis annularis*)	-	1	-	-	-	-	-
Percidae							
johnny darter *(Etheostoma nigrum)*	1	-	-	1	1	-	-
orangethroat darter *(Etheostoma spectabile)*	1	1	1	1	1	1	-
logperch *(Percina caprodes)*	1	1	1	1	1	-	-
Sciaenidae							
freshwater drum *(Aplodinotus grunniens)*	1	-	-	1	-	-	-
Number of species	16	21	17	19	17	14	8

Table B-2. Species richness for fish communities at sites in the Blue River (BLK), Indian Creek (ICK), and Boone Creek (BCK), June 2012 and corresponding species richness for sites sampled in September 1999.

2012			1999		
Site	**Date**	**Species Richness[a]**	**Site**	**Date**	**Species Richness[a]**
ICK 0.2	6/12/2012	19	ICK 0.2	September 1999	21
ICK 1.0	6/12/2012	17	ICK 2.2	September 1999	15
ICK 3.0	6/13/2012	14			
BLK 25.0	6/14/2012	16			
BLK 27.0	6/13/2012	21	BLK 32.1	September 1999	20
BLK 31.0	6/14/2012	17	BLK 33.9	September 1999	18
BCK 0.2	6/13/2012	8			

[a] Number of species

APPENDIX C

PCA LOADINGS TABLES AND GRAPHS

Table C-1. Summary of analysis of covariance results for the relationship between lipids and PCB concentrations in channel catfish and green sunfish from Blue River, Indian Creek and Boone Creek, Kansas City, 2012. See Section 2.5 for full description. The slopes for the full models (i.e., site*lipid) were found to be parallel ($p > 0.05$) for both species, thus the results aren't shown.

Species / Source	DF	Sum of Squares	Mean square	F value	Pr>F	Source	DF	Type I SS	Mean square	F value	Pr>F	Source	DF	Type III SS	Mean square	F value	Pr>F
Channel catfish																	
Model	4	2.73	0.68	8.52	0.0002	Site	3	1.92	0.64	7.97	0.0007	Site	3	1.62	0.54	6.73	0.0018
Error	25	2.0	0.08			Lipid	1	0.82	0.82	10.16	0.0038	Lipid	1	0.82	0.82	10.16	0.0038
Corrected total	29	4.74															
Green sunfish																	
Model	5	9.27	1.85	40.32	<0.0001	Site	4	9.25	2.31	50.26	<0.0001	Site	4	8.13	2.03	44.18	<0.0001
Error	34	1.56	0.05			Lipid	1	0.02	0.02	0.54	0.4680	Lipid	1	0.02	0.02	0.54	0.4680
Corrected total	39	10.83															

Table C-2. Principal components analysis (PCA) loadings for 111 congeners in 2012 green sunfish from non-reference sites in the Blue River and Indian Creek. Congeners are grouped by locations for which they contributed most to the trends revealed in the PCA. See companion Figures C-1 and 7.

BLK25		
Congener	Axis 1	Axis2
PCB_001	-0.8087	-0.393
PCB_003	-0.7809	-0.264
PCB_004	-0.89	-0.2799
PCB_006	-0.8971	-0.1886
PCB_007	-0.8805	-0.1679
PCB_008	-0.9086	-0.1656
PCB_009	-0.8902	-0.2175
PCB_010	-0.8225	-0.3803
PCB_012	-0.5815	-0.0916
PCB_015	-0.6533	-0.1759
PCB_016	-0.8984	-0.1464
PCB_017	-0.873	-0.2257
PCB_018	-0.8906	-0.2147
PCB_019	-0.8976	-0.2596
PCB_020	-0.9335	0.2288
PCB_021	-0.92	0.0305
PCB_022	-0.952	0.1668
PCB_025	-0.9468	0.0727
PCB_026	-0.9558	0.0862
PCB_027	-0.8691	-0.0776
PCB_031	-0.955	0.1174
PCB_032	-0.9566	-0.0829
PCB_034	-0.961	-0.028
PCB_037	-0.9099	0.1234
PCB_039	-0.8965	0.1941
PCB_040	-0.9673	0.1124
PCB_042	-0.9586	0.1732
PCB_043	-0.9648	0.0718
PCB_044	-0.9739	0.1185
PCB_045	-0.9773	0.0347
PCB_046	-0.8923	0.0981
PCB_048	-0.9441	0.1814
PCB_049	-0.9456	0.2217
PCB_050	-0.9801	-0.0079
PCB_052	-0.9588	0.1565
PCB_055	-0.9061	0.1341
PCB_056	-0.9007	0.3085
PCB_057	-0.8903	0.1086
PCB_059	-0.9492	0.1451
PCB_060	-0.8823	0.3638
PCB_061	-0.9119	0.3062
PCB_063	-0.9027	0.2855
PCB_064	-0.9517	0.2068
PCB_066	-0.8715	0.3503
PCB_067	-0.9248	0.2656

BLK25 (cont.)		
Congener	Axis 1	Axis2
PCB_072	-0.9527	0.1291
PCB_077	-0.9179	0.2214
PCB_079	-0.7524	0.3921
PCB_082	-0.9303	0.22
PCB_083	-0.881	0.2352
PCB_084	-0.9593	0.1116
PCB_085	-0.8938	0.2577
PCB_086	-0.9076	0.2362
PCB_088	-0.9475	0.1243
PCB_090	-0.9246	0.1583
PCB_092	-0.9432	0.0839
PCB_093	-0.863	-0.0495
PCB_095	-0.9738	0.0484
PCB_099	-0.9003	0.2064
PCB_103	-0.7539	-0.1451
PCB_105	-0.8783	0.2605
PCB_109	-0.8476	0.2552
PCB_110	-0.9602	0.0822
PCB_114	-0.8913	0.2146
PCB_118	-0.8893	0.1947
PCB_123	-0.8022	0.2214
PCB_128	-0.7369	-0.116
PCB_129	-0.9012	-0.2942
PCB_130	-0.8656	-0.1663
PCB_132	-0.9199	-0.2281
PCB_133	-0.7136	-0.2345
PCB_135	-0.849	-0.3757
PCB_136	-0.8612	-0.3552
PCB_141	-0.8701	-0.2999
PCB_144	-0.8351	0.166
PCB_146	-0.901	-0.2475
PCB_147	-0.861	-0.3665
PCB_153	-0.8638	-0.2717
PCB_158	-0.8781	-0.2479
PCB_164	-0.8691	-0.3586
PCB_178	-0.7916	-0.1161
PCB_190	-0.6221	-0.2787
PCB_195	-0.6378	0.1354

BLK27		
Congener	Axis 1	Axis2
PCB_002	-0.4105	0.6421
PCB_011	-0.3861	0.7081
PCB_038	-0.4726	0.7298
PCB_107	-0.3266	0.8094

BLK 25 and BLK27		
Congener	Axis 1	Axis2
PCB_058	-0.7394	0.5011
PCB_096	-0.8216	0.4334
PCB_122	-0.8252	0.3542
PCB_137	-0.7022	0.3873

BLK25 and ICK0.2		
Congener	Axis 1	Axis2
PCB_170	-0.6943	-0.6393
PCB_171	-0.7469	-0.4259
PCB_172	-0.6545	-0.612
PCB_174	-0.7783	-0.5469
PCB_177	-0.7799	-0.4935
PCB_179	-0.668	-0.6249
PCB_180	-0.7222	-0.6258
PCB_183	-0.7873	-0.5483
PCB_187	-0.7561	-0.573

Multiple sites or little contribution[a]		
Congener	Axis 1	Axis2
PCB_024	-0.4123	0.2879
PCB_154	-0.5261	-0.4117
PCB_156	-0.6331	0.4864
PCB_167	-0.5982	0.542
PCB_175	-0.4304	0.5901
PCB_191	-0.5643	0.4392
PCB_194	-0.5147	-0.6432
PCB_196	-0.6208	-0.4793
PCB_198	-0.6047	-0.6151
PCB_202	-0.5776	0.2857
PCB_203	-0.5274	-0.6768

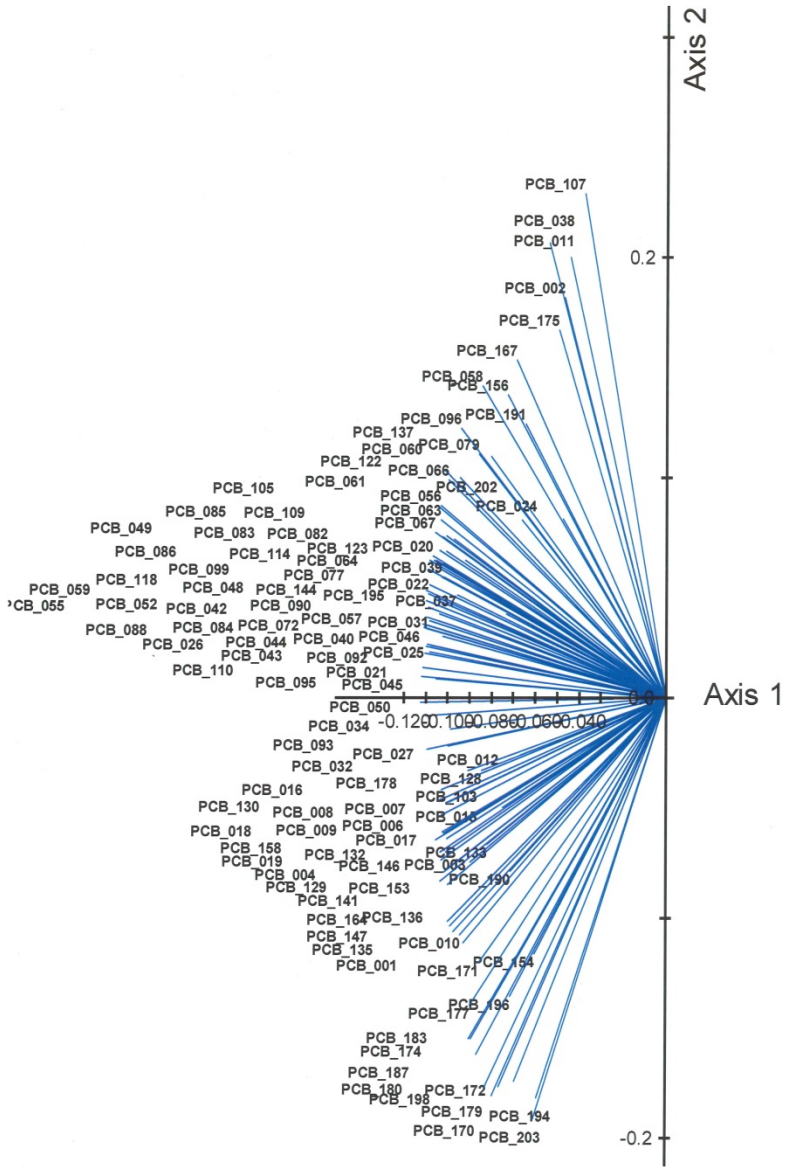

Figure C-1. Plot of principal components analysis (PCA) congener patterns for green sunfish from Blue River (BLK25 and BLK27) and Indian Creek (ICK0.2 and ICK1.0) for 111 PCB congeners (see Table C-2 and companion plot in Figure 7). Reference sites samples were excluded from the analysis because there were no lipid data for BLK31 and the results for ICK3.0 skewed results due to much lower PCB concentrations.

Table C-3. Partial principal components analysis (PCA) congener loadings (103) for 2012 channel catfish results from non-reference sites in the Blue River and Indian Creek. %Lipids was used as the partial variable in the analysis. Results are grouped by locations for which the congeners contributed most to the trends revealed in the PCA. See companion Figure 8.

Blue River			Blue River and Indian Creek			Indian Creek		
Congener	Axis 1	Axis2	Congener	Axis 1	Axis2	Congener	Axis 1	Axis2
PCB_055	-0.241	-0.4149	PCB_060	-0.919	0.0435	PCB_001	-0.447	0.6018
PCB_085	-0.9422	-0.1987	PCB_063	-0.9299	0.0276	PCB_003	-0.5086	0.7116
PCB_090	-0.9552	-0.1896	PCB_066	-0.9264	-0.0104	PCB_004	-0.5781	0.7326
PCB_092	-0.9383	-0.19	PCB_083	-0.9287	-0.0602	PCB_005	-0.5424	0.6944
PCB_093	-0.9286	-0.145	PCB_086	-0.9499	-0.0575	PCB_006	-0.6002	0.721
PCB_099	-0.9285	-0.2068	PCB_088	-0.9753	-0.0684	PCB_007	-0.601	0.7102
PCB_103	-0.8793	-0.1984	PCB_094	-0.9693	0.02	PCB_008	-0.526	0.7563
PCB_105	-0.9386	-0.1967	PCB_110	-0.933	-0.0885	PCB_009	-0.5826	0.7278
PCB_109	-0.9483	-0.2158				PCB_010	-0.5899	0.6977
PCB_114	-0.9266	-0.2368				PCB_015	-0.3221	0.689
PCB_118	-0.9418	-0.2269				PCB_016	-0.6165	0.6944
PCB_123	-0.9269	-0.269				PCB_017	-0.6007	0.7625
PCB_128	-0.7923	-0.2736				PCB_018	-0.5831	0.7593
PCB_129	-0.8844	-0.4282				PCB_019	-0.5811	0.7759
PCB_130	-0.8227	-0.4045				PCB_020	-0.605	0.5468
PCB_132	-0.7079	-0.311				PCB_021	-0.453	0.6799
PCB_133	-0.7854	-0.5549				PCB_022	-0.6528	0.7224
PCB_135	-0.8907	-0.2917				PCB_024	-0.6333	0.6465
PCB_137	-0.9003	-0.2167				PCB_025	-0.3249	0.7153
PCB_141	-0.8487	-0.4749				PCB_026	-0.5488	0.7532
PCB_144	-0.7754	-0.3853				PCB_027	-0.7066	0.6497
PCB_146	-0.8558	-0.4659				PCB_031	-0.3917	0.6648
PCB_147	-0.8401	-0.3875				PCB_032	-0.7132	0.657
PCB_153	-0.8167	-0.5297				PCB_034	-0.6295	0.6399
PCB_154	-0.7953	-0.5153				PCB_039	-0.7135	0.5575
PCB_156	-0.8872	-0.3346				PCB_040	-0.7173	0.6014
PCB_158	-0.8741	-0.4306				PCB_042	-0.8826	0.3911
PCB_164	-0.8833	-0.4058				PCB_043	-0.8502	0.3649
PCB_167	-0.877	-0.399				PCB_044	-0.9503	0.2349
PCB_170	-0.8486	-0.4371				PCB_045	-0.7336	0.6146
PCB_171	-0.8315	-0.5027				PCB_046	-0.6754	0.6236
PCB_172	-0.8387	-0.501				PCB_048	-0.7621	0.5791
PCB_174	-0.8507	-0.4752				PCB_049	-0.942	0.1623
PCB_175	-0.8072	-0.4951				PCB_050	-0.6589	0.621
PCB_177	-0.6879	-0.4741				PCB_052	-0.8796	0.3807
PCB_178	-0.8421	-0.5035				PCB_056	-0.6873	0.5981
PCB_179	-0.7522	-0.3738				PCB_059	-0.9473	0.2209
PCB_180	-0.822	-0.5059				PCB_061	-0.9244	0.1458
PCB_183	-0.7874	-0.5754				PCB_064	-0.948	0.1593
PCB_187	-0.88	-0.3883				PCB_067	-0.6562	0.627
PCB_190	-0.7522	-0.5362				PCB_072	-0.7022	0.4654
PCB_191	-0.8065	-0.5056				PCB_077	-0.5593	0.6747
PCB_194	-0.7521	-0.5446				PCB_082	-0.8252	0.2184
PCB_195	-0.7732	-0.5403				PCB_084	-0.7992	0.3603
PCB_196	-0.7397	-0.5605				PCB_095	-0.8246	0.2392
PCB_198	-0.8125	-0.4692				PCB_136	-0.6045	0.104
PCB_202	-0.8215	-0.4785						
PCB_203	-0.72	-0.6045						
PCB_206	-0.7175	-0.4733						

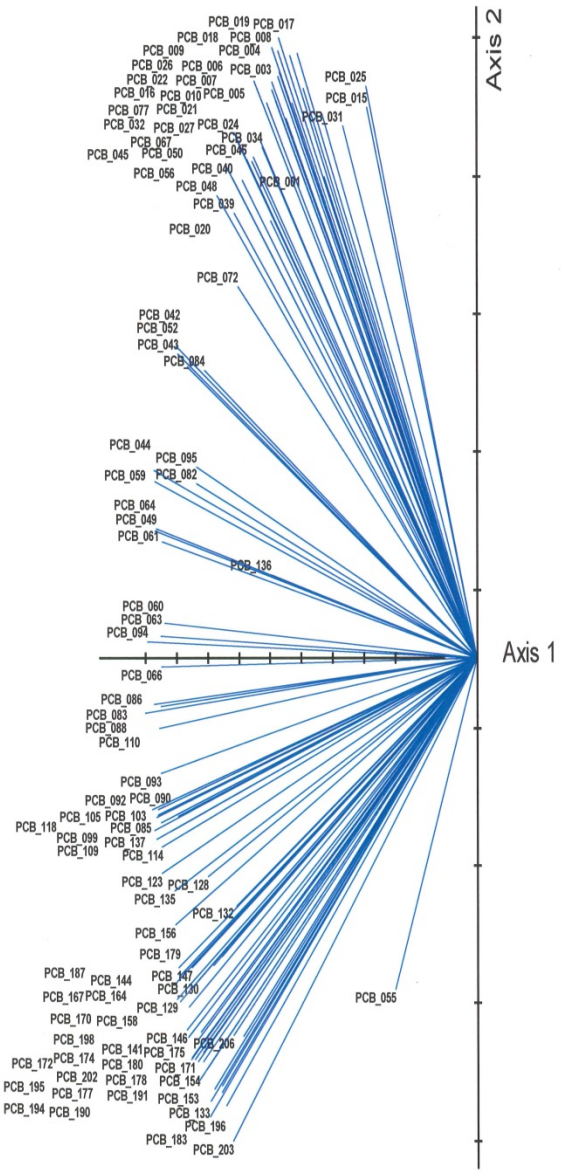

Figure C-2. Plot of partial principal components analysis (PCA) congener patterns for channel from Blue River (BLK25 and BLK27) and Indian Creek (ICK0.2 and ICK1.0) for 103 PCB congeners (see Table C-3 and companion plot Figure 8). %Lipids was used as the partial variable in the analysis. Reference sites samples were excluded from the analysis because there were no lipid data for BLK31 and the results for ICK3.0 skewed results due to much lower PCB concentrations.